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Riter-Conley Manufacturing Company

STEEL CONSTRUCTION

Pittsburgh

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SMITHSONIAN DEPOSIT.

THE UNITED GAS IMPROVEMENT COMPANY,

PHILADELPHIA.

BUILDERS OF

THE STANDARD DOUBLE SUPERHEATER

LOWE WATER GAS APPARATUS.

ACCURATE MEASUREMENT

OF

AIR AND STEAM SUPPLY

(PATENTED),

AFFORDING { PERFECT CONTROL OF GENERATOR FIRE CONDITIONS.

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Gas Appliances in the Washington Irving High School, New York City.

[Prepared for the JOURNAL, by MR. HAROLD L. ALT.]

Years ago education was confined to the plainly practical "Three R's," with which we are all familiar; for, in those days, little time could be spared to take up the more general studies of an intellectual nature, however desirable knowledge on these subjects might be. From this primitive stage the pendulum swung to the opposite extreme, arriving at its farthest movement only a short time ago, when accomplished Latin and Greek scholars proved themselves unable to make successful bookkeepers, owing to the fact that so much of their school time had been spent in the polishing line that they were woefully deficient in the required elementary rudiments of education.

At the present date, however, educational sanity has again asserted itself, and we are approaching the ideal state of combining the practical and the modern, with sufficient polish to remove the rough spots without necessarily interfering with the useful and elemental portions of acquired knowledge. Witness, the "Washington Irving High School."

It is not within the scope of this article to either criticize or approve the general arrangement of the school, as our readers' interest will be almost entirely concentrated in the fourth story, of which we reproduce a complete plan, Fig. 1. This floor is utilized as a students' lunch room, gymnasium, locker room, and to emphasize the educational purposes of general housekeeping and domestic science. The general housekeeping section, shown in the upper, left hand corner of the plan, embodies the arrangement and up-keep of a typical modern house: A small bathroom, containing a waterclosets, a bathtub and lavatory being shown on the extreme left; next to which is the kitchen with gas range (note that it is *gas* range), beyond which is a pantry connecting to a dining room, then a living room, sleeping room; finally, a nursery.

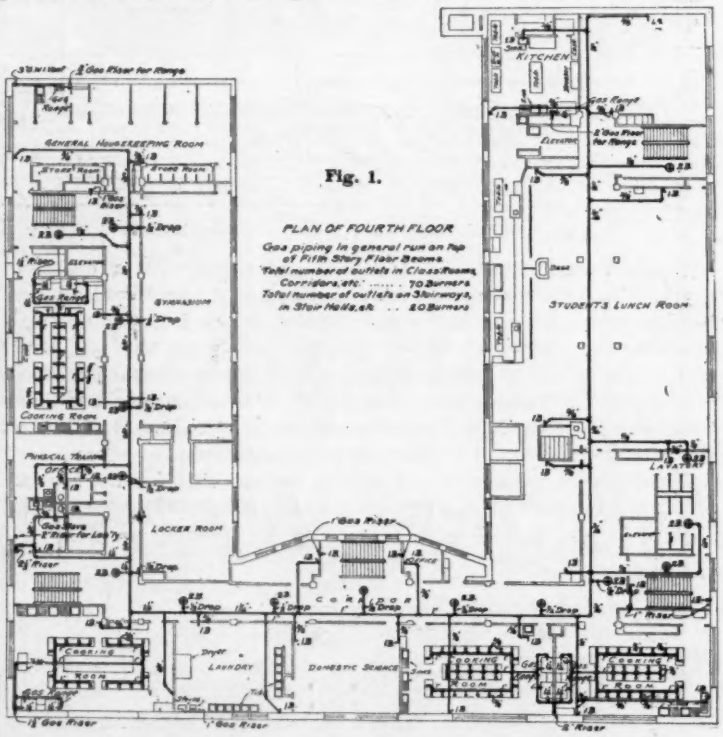

Fig. 1.

PLAN OF FOURTH FLOOR

Gas piping in general run on top of Fifth Story Floor Beams.
Total number of outlets in Class Rooms, Corridors, etc. ..... 70 Burners
Total number of outlets on Stairways, in Stair Halls, &c. ... 20 Burners

Directly opposite the gymnasium is placed the cooking room, in which counters are located with thirty 1-burner, *gas* stoves, and 2 large *gas* ranges, together with a dishcloth dryer. In the cooking room the cooking is done throughout by *gas*, and *gas* only, it being considered the best medium for that purpose; further, it is apparently the one with which it is assumed that the pupils will have to deal later on their own account.

Across the front of the building is placed the domestic science section, which consists of three cooking rooms, a domestic science service room and a laundry. The cooking rooms in this section are to a great extent similar to the one aleady described with two (or three) porcelain sinks in each.

The laundry is equipped with a clothes dryer, two sets of 6 porcelain washtubs, and 2 *gas* laundry stoves.

In the students' lunch room, located in the wing on the right, no gas piping beyond outlets for lights is used; but in the kitchen for the the lunchroom a large *gas* range is installed, together with a dishwashing machine, refrigerator, dresser, sink and wash-tray. Most of the special apparatus included on this floor, such as urns, steam tables, special gas ranges, etc., was furnished by the Duparquet, Huot & Moneuse Company, New York City. The gas range in

the housekeeping kitchen is a Duparquet, Huot & Moneuse Company's "Perfect," 1861, family gas range, with a top 34 inches by 22 inches and standing 34 inches high.

The combination gas fixtures in each cooking room are constructed (as shown in detail in Fig. 2) on angle iron stands with undershelves,

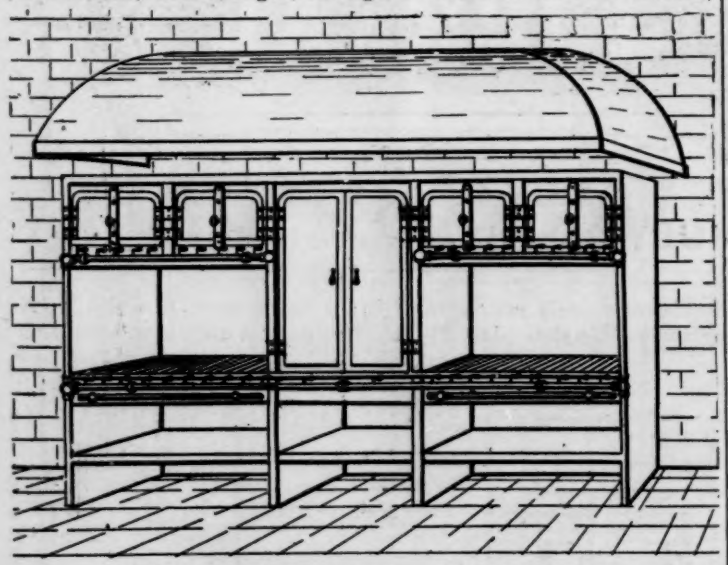

Fig. 2.—Combination Gas Fixtures in Cooking Rooms.

hot plate arrangement and 4 ovens, and fitted with a dishcloth dryer, with tinned iron racks for dishcloths, and a heavy black iron hood above. These fixtures measure about 10 feet 6 inches long, and 24 inches deep, and are built of No. 16 U. S. gauge steel, all of the trimmings being of polished steel. The hoods are of japanned, wrought steel, 11 feet 6 inches long by 3 feet 6 inches wide, and 2 feet 5 inches high. The laundry stoves are similar to Geo. M. Clark & Co.'s No. 222, japanned types, with 2 giant burners.

The single burner *gas* stoves, used by the students for their ovens are shown in detail in Fig. 3; and, for individual student use, a total

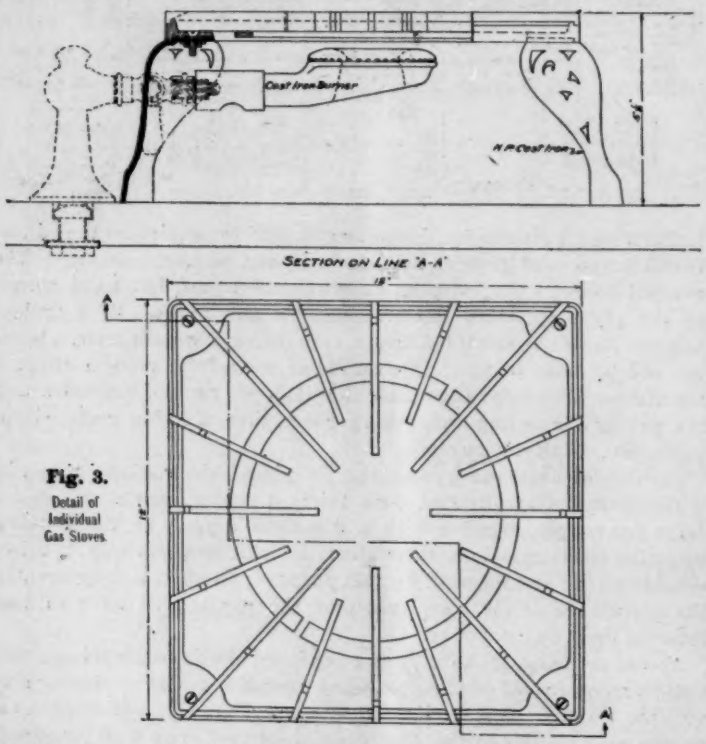

Fig. 3. Detail of Individual Gas Stoves.

of thirty-two 14 by 14 inches, by 17½ inches, single, portable, tinlined ovens, similar to the Jewel No. 293, are furnished.

The gas piping for the entire building is separated into four distinct systems, which are metered by individual meters, one system supplying gas to the laboratory fixtures, one system to the ranges and stoves in the cooking rooms, one supplying gas to the kitchen, and the last for general lighting throughout. The gas piping is of the best quality of wrought iron pipe, galvanized on the outside only, with heavy, malleable, ironbeaded, galvanized fittings. Where changes in size are made, reducing fittings without bushings are used, and wherever possible Y's and 45° elbows are installed in preference to tees. The distributing pipes are placed on top of the floor or roof beams in general, with bent pipes used for drops, and the connections between the branches and the main lines are of malleable iron, right-and-left couplings. The pipes, carefully reamed, were put together with screw joints made up with red lead.

The outlet at the floor under the demonstration table, in the science room on the fourth story, is extended entirely of brass above the floor, an insulating joint being placed where the iron and brass pipes connect together. This outlet is fitted with a 2-way pillar body and single (female) brass hose cocks, on the top of the table. A brass gate valve is inserted in the riser.

For the gas stoves and ranges in the cooking rooms in the fourth story three separate, 1¼ inch, risers are extended from the cellar direct up to the stoves and ranges, as shown in Fig. 1, with gate valves placed at the ranges. Below the flooring of the fourth story a 1-inch pipe connection is made and extended to a point under the student's table, as shown, continuing this line with 1-inch risers with sliding stem and live gate valves on the risers, and 1-inch lines under the projection of the table tops. From these 1 inch lines ¼-inch branches are extended, terminating with double outlets with brass hose cocks (female) for individual stove connection.

London Progress in Gas Production.

[By an "Occasional Correspondent."]

The Beckton Gas Light and Coke Company, which supplies gas for two-thirds of the British metropolis, recently invited members of the British Institution of Mining Engineers to visit its principal works at Beckton, near London, and the visitors were frankly amazed. The extent of the works and its manifold interests were alone surprising. Few individual enterprises in the world, apart from dockyards, can boast of an area of 275 acres, a territorial (the volunteer soldiers of Great Britain are called "Territorials") army and rifle ranges, and a complete railroad system. Yet the Beckton gas works has not only this area, but concentrates upon the site industrial activity almost beyond human comprehension.

At the river pier some 1,750,000 tons of coal are unloaded per annum, the hydraulically operated grabs being capable of handling 700 tons per day. The retort houses are 14 in number, and extend about half-a-mile, in double line. Some are electrically operated, others have the aid of compressed air, and a third variety is provided with hydraulic machinery. Jointly the retorts are capable of producing 61,000,000 cubic feet of gas per day, and of carbonizing 5,000 tons of coal. In addition there is a carbureted water gas plant capable of producing 27,000,000 cubic feet of gas per day. The plant is stated to be the most complete in existence, all the operations of gas making and recuperation being controlled by hydraulic power operated by levers from a central stand. The blowing plant for this installation consists of four 110-horse power turbine driven fans. The carbureted water gas, after being tested, is mixed with the coal gas at the inlet of the gasholders, of which the storage capacity totals 19,000,000 cubic feet, the largest gasholders holding 8,000,000 cubic feet.

A pumping plant, capable of pumping 4,100,000 cubic feet of gas per hour, delivers the gas to the storage holders or for use in London. There are extensive repair workshops, including the boiler shop for the repair of all stationary and locomotive boilers, and other work of a similar nature. In this shop the employment of pneumatic tools is general. The erecting and machinery shops are very extensive. There are 40 lathes, planing and shaping machines, radial-drilling machines and small drillers, which are kept fully employed for the repairs to the locomotives, pumps and machinery on the works. There is a foundry capable of producing some 50 tons per week, with a pattern making shop in connection therewith. The private locomotive sheds of the works provide accommodation for 31 locomotives, and these are engaged upon 45 miles of single track.

What is not known at Beckton regarding the by-products of the coal gas industry remains to be discovered. The chemists there could probably throw more enlightenment upon the possibilities of benzol and other light oils than many who are to-day writing as experts for or against this petrol substitute. The by-products works deal with the whole of the liquid by-products, which comprise tar, cyanogen, ammonia, and spent oxide. These they place on the market as useful substances of high quality.

In the tar works are stills for the distillation of 18 million gallons of tar per annum, with underground storage for 4,000,000 gallons.

The five pitch beds adjoining the stills have a capacity of 30,000 tons. For the refining of the light oils the naphtha stills and washing plant prepare the distillate which, in the benzol house, yields benzol, toluol, and solvent naphtha amounting to 120,000 gallons yearly. Naphthaline is refined by means of 12 stills, and is manufactured into salable forms in a house close by. Another battery of stills serves for the purification of carbolic acid, up to the standard required for surgical purposes. A series of large tanks contains the stores of creosote used for timber pickling, very large quantities being produced. In another quarter is the house in which anthracene is purified.

The liquor works contains stills and saturators producing 24,000 tons of sulphate of ammonia per annum. Beside it stand a sulphuric acid plant in which sulphuric acid is manufactured from the spent oxide resulting from gas purification; the furnaces are of modern mechanical type. Ammonia gas is also purified for the manufacture of aqueous ammonia, and for the production on a large scale of anhydrous ammonia (for refrigerating plant). In the cyanogen plant crude cyanogen liquor is converted into crystalline prussiates of soda and potash, and provides material for the manufacture of prussian blue and for the cyanides of potassium and sodium.

[Concluded from Page 29.]

PROCEEDINGS, NINTH ANNUAL MEETING, IOWA DISTRICT GAS ASSOCIATION.

Held at Burlington, Ia., May 7-9.

Third Day—Morning Session.

The President asked Mr. Smith to read the paper on

OPERATING A STOREROOM.

A storeroom account is essential to the operation and maintenance of any business, whether large or small, because it makes it possible at all times to know the unit cost, the total cost of material on hand, the exact cost of operation, construction or merchandising, and gives a bais for figuring the selling price. Its operation is varied considerably by the needs of the business, but the ultimate result is the same for all.

In the first place, some form of stock ledger leaf or card system is necessary to keep an accurate account of all material received and issued. On the receipt side, columns are provided for order number, quantity ordered, date of invoice, date of goods received, quantity, freight, or express labor, total and unit cost; and columns showing month, quantity, value, which take care of the receipts and issues during the month in one total; the last total being value of material on hand, after additions and subtractions are made. On the issue side, spaces are provided for maximum and minimum, unit cost, selling price and issues; the issue column being sub-divided into month, quantity and cost; these latter columns for daily posting, the total at the end of the month, being forwarded to the receipt side and deducted from amount on hand.

For all purchases originating in the office, some method of duplicate or tri plicate order is necessary, and when goods are ordered, an exact copy of this order goes to storekeeper, enabling him to keep a check on material ordered and to prevent duplicate receipts or discrepancies in billing. When goods are received they are checked against the order, and, if found correct, are placed in stock. The invoice is also checked, after which it is posted to ledger leaf or card, on the receipt side, posting to show full details as to quantity and total cost. This method is pursued through the month, at the end only the various charges to storeroom sub-accounts appear, with no charges as yet to storeroom and account in general ledger. This latter charge can be originated from a journal entry, charging storeroom, and crediting accounts payable, or by a form of bill receipt book in columnar fashion (this book may include bills of all kinds, whether storeroom, manufacturing or improvements) one column showing storeroom, the total of which will give total charges posted against sub-accounts during the month. For issues there should be some form of work order, indicating the kind of work to be done, whether by reason of sale, construction or otherwise, this to be given to the storekeeper for material required. A good plan is to have a box for each class of work (as stove setting, etc.), and have the storekeeper place therein sufficient material for a day's work. The man doing this work starts out with his orders and material and, on finishing a job, places on the work order the number of fittings, etc., used; and so on until his day's work is done, when he returns the orders with notation of material used. The box is then taken and checked up to see if his record of material used, plus the returned material, corresponds with the amount taken out.

In the case of pipe or material that cannot be put in a box, the method is the same, except that a check is kept of material taken out by a charge against the man, who is credited with the return, the difference being noted on his finished work orders. In case a job is more than a day's duration, a check is kept until it is completed, and the finished order returned; the idea being to know accurately the amount of material outgoing and the amount returned, and where the difference was used.

After the material used in any one day is proven by the notations on the work orders, the individual work orders are totalled. Then all completed orders are taken and the various materials used brought together under their respective headings. This assembles all the material used that day under the heading, and in one amount, irrespective of the number of orders. After these are proven against the total of various work order totals, there will be one credit to storeroom (holding account) and several credits to storeroom (sub-accounts) and several charges to operation or improvement accounts; one balancing the other. These are generally placed on a distribution sheet, and, at the end of the month, the total amount posted as a credit to storeroom (holding account), and the total counter charges to the accounts receiving material during the month.

There is at the left side of the ledger leaf the maximum and minimum quantity to be carried, and when it is necessary to order material, an inventory of that material is taken, making corrections in unit cost, if any; this, it will be observed, makes a more or less a perpetual inventory, and does away with the hurried and frequently incorrect inventory taken at the end of the year; and also the additional cost and delays incident thereto. It also keeps the storeroom (stock on hand) as nearly as possible in accord with storeroom (controlling account), doing away with the happening of being deceived by an inaccurate storeroom asset.

At the suggestion of the President, Mr. J. A. Goss, Commercial Agent of the Cedar Rapids Gas Company, read as follows, the

Report of Standing Committee on New Business.

During the past year there have been practically no changes in the methods of obtaining new business. Many of the larger companies have had campaigns on small appliances, with varying success. More attention has been paid to developing business on main extensions, either for the first or second year. This is very important, and often as much business can be obtained the second year as was obtained when the main was laid. There has been a concerted effort at standardization of appliances, especially that of the cabinet range. Most of the manufacturers are so constructing them, that doors, linings, burners, etc., are interchangeable, reducing the repair parts to be carried in stock. Many of the older types of ranges are being replaced, and it is essential that stress be laid on selling cabinet ranges. Gas fixtures have been improved during the past year, better grades of fixtures and ornamental brackets being carried. Patented gas chains give the appearance of electric fixture chains, and numbers have been sold. The semi-indirect fixture has been put on the market, and the field for this type of fixture is broadening. Some gas companies are handling combination fixtures, so as to regulate type of fixtures and gas burners to be installed. Filament ignition systems have been improved, and are now practical, and in business houses subject to a strong draft, they are more positive in ignition than the pilot system. The one chain ratchet, with audible signal, has also been introduced on one make of high candle power, single mantle, lamp. Internal combustion radiators have been produced, and great claims are made for this type of heater.

Gas hot-water radiators and gas steam radiators have been improved and are now practical. Copper coil water heaters are used extensively, due to the possibility of cleaning out the lime where there is hard water. In the instantaneous automatic types there have been several improvements and additions. Some smaller size heaters have been produced; one being square and nickle plated, with only 8 feet of copper coil, and with a large number of 2 inch metal disks fastened to the coil to absorb the maximum amount of heat from the gas burned. There is an automatic water heater suitable for nearly every case. Many new industrial appliances have been produced, the "Zicer," or iceless refrigerator, with its slogan, "Let the gas man be your ice man," being one of the most interesting. Syphon

blast hotel ranges have replaced the older types. Another type has a number of burners arranged across the front so as to heat the entire top to a cherry red.

Manufacturers are co-operating more with the gas companies by having special men, traveling window displays, and neat, permanent exhibits for the sales rooms. During the past year credit departments were more strict, and deposits or prepayment meters are used, thus reducing the P. & L. accounts and uncollectible sundry bills. Some companies make an inspection of the consumers equipment, using their salesmen for this work during the winter months.

Business conditions were remarkably good, even though it was Presidential election year, and all indications now point to even a better year during 1913.

Back to the Oil Subject.

The President—Our time this morning will not permit a discussion of all the papers and reports that have been read, and I take it that Col. Pratt's remarks on the oil situation are of widest interest. If any one has anything to say on that subject, let us take that up first.

Mr. Miller—I gave considerable study to the oil question a few years ago, and in a paper before one of the Associations I made the startling discovery, disclosed to me by a prominent oil man, that up to that time the total amount invested in developing oil fields, the purchase of land and boring of wells, for pipe lines, tank cars and oil ships, represented about $1 per barrel for the oil that had been produced; in other words, the total investment at that time was equal to the total production of the wells with oil figured at $1 a barrel. Those figures indicate a reason for the demand of the oil producer for a better price. I regard the present price of oil as being the swing of the pendulum. During the low prices the owners of a well in the Beaumont field made a contract to deliver oil for a term of 5 years at 7 cents a barrel, for several thousand barrels per year. At one time I made a contract for 125,000 barrels, that netted the producer 32 or 33 cents a barrel at the well. Before that contract was completed the value of the oil was $1 at the well, because the Southern Pacific Railroad Company was buying a million barrels. The enormous amount of money invested in oil-burning locomotives has kept a steady demand for that oil. They have been using the crude oil Of course, every gallon of crude oil so used takes some lubricating and burning oil out of the market. I was sorry Col. Pratt did not refer to the currently reported improvements in the methods of extracting burning oils, enabling refiners to produce a larger percentage of burning oils from the crude oil, and resulting in the production of a smaller amount of gas oil.

Mr. Weisgerber—I made a trip last fall to the fields, and, after some difficulty, bought up a little over 7,000,000 gallons of oil. I am about to start on another trip, for three times that amount of oil, and the condition looks black. There are large oil fields in Mongolia, but for political reasons these fields are not developed. I know of one company that sent 52 men to those fields, and they prospected over a territory of about 11,000 square miles. The Chinese government have now offered a man the position of Secretary of Gas and Oil, and given him 2 years to think it over before they make a move. A great deal of oil is being exported from this country, some of it at a loss. If this oil situation in Asia is settled, I believe it will help the oil market materially, and will keep a great deal of oil now being exported in this country.

Col. Pratt—I don't believe that much crude oil is finding its way to those to which Mr. Miller refers, at least from references, because the products from the crude oil are worth too much money to sell the crude direct. Burning oil or kerosene, is the greatest drug upon the market now, and instead of being used as heretofore, largely for illumination purposes, is being used more for industrial purposes, such as for large traction engines. You would be surprised to know the number of concerns that are experimenting with low-grade oils for power purposes. I agree with Mr. Miller that these things go in cycles. Some of us who have more gray hairs than others can hark back to the time when only coal gas was manufactured; and remember with what vim we attacked the use of oil for the manufacture of gas. The products of petroleum are now so valuable, especially gasolines, that every ounce that can be taken from petroleum is taken. And while it may appear that a man who is operating a water gas machine now, is working against his own interests, I think there will still be a place for it, and that a large number of companies will be compelled to continue in it. I am a coal gas man, and although I was educated in the coal gas business, I am not prejudiced against coal gas or in favor of water gas, or *vice versa*. I am for the thing that can be made most cheaply, and give the greatest satisfaction to our consumers. We have passed the period when councils (possibly through our own fault) have insisted upon high illuminating standards. That day is past; and every concern ought to see to it that, in the renewal of franchises, or in taking up these subjects with the city officials, they put themselves where they can sell gas from the heating value standard, rather than the illuminating standard. In that connection just one suggestion to the small operator. Many small concerns have storage capacity for only a tank car of oil, and have to time the arrival of the oil so that they will not run out. The shipper too has to time the shipments so that they will reach on time. It is a pretty good thing to have about double the storage capacity that you actually need, because the honest oil man (if such exists) will frequently say: "We have a car of oil that we can run in to you and save you a fraction of a cent by taking it." We would like to help out our gas friends by letting them know that there is a surplus of oil at certain times, and that by running in a tank car we can save them a little money. I hesitate about speaking of those things, Mr. President, because it looks like advertising; but I am in the gas business also, and so far as our own Company is concerned, we have done all in our power to secure for gas companies in Iowa, Illinois and Nebraska, more satisfactory shipping rates than have prevailed hitherto, and I feel that in whatever has been accomplished in that direction we have assisted. In other words, I am trying to put myself in a position to co-operate with the gas companies, and if there are any benefits to be secured we want to help secure them.

Vote of Thanks.

Mr. Maynard—This organization is composed of persons who, I think, are as sensible to the finer characteristics and enjoyments of life as it is possible to be. One of the distinguishing features of men of our caliber is gratitude. We have had a good time in Burlington, and any who have acted as hosts on an occasion of this kind, know that these things don't happen. There has been intelligence, and hard, conscientious work back of it all. I don't want this session to close without the authorization of an expression, on our records, that we appreciate the generous hospitality, the kindly and friendly treatment that we have received from the newspapers of Burlington, from this hotel, Mayor Norton and his intelligent aides, the Burlington Gas Company, the Peoples Gas and Electric Company, and to more particularly specialize from Messrs. Potter, McCarthy, Clary and Bentzinger. They have earned every expression of commendation that we can vote them, and I move you, Mr. President, that the records include this expression. [Seconded, put and adopted.]

In Respect of National Advertising.

The President—Mr. Martin has a matter of business to bring to our attention, as the representative of the National Commercial Gas Association.

Mr. Martin—I will read the correspondence and portion of the pamphlet. (Mr. Martin thereupon read extracts from the pamphlet on "National Advertising" issued by the National Commercial Gas Association.) Copies of this pamphlet had been sent to all the gas companies in the Association, and he thought the proposition would be of very great benefit to the industry as a whole, and particularly to smaller companies whose heads had other work to do beside writing advertising copy, and who often put something in the paper absolutely inefficient and non-productive of results. A man can't be a combination gas maker, gas fitter, bookkeeper and solicitor, and also an advertising man.

Mr. Haines didn't believe the convention understood the full significance of what Mr. Martin had read. The idea of the National Commercial Gas Associaltion was to develop, through this advertising, and through a popular subscription, based on the output of each company, a fund to be placed at the disposal of a committee thoroughly conversant with the broadest principles of national advertising, and which was in sympathy with the progress of the gas business and with the signs of the times. They believed the only way in which the public could be properly educated to appreciate the efforts of the managers of public utilities was through national advertising, on very widespread, broad principles, The large companies, which, of course, benefited more largely by it, were the heavy contributors, and the speaker thought even a small company could afford to pay the small amount to the National Association, letting the latter handle it for general benefit.

Mr. Kelsey thought the thing that stood in the way of getting action heretofore was the feeling on the part of a great many managers that

it might result in the diverting of money they would like to spend with the local newspapers. It was a legitimate objection unless the proposition was closely analyzed. A manager in any particular town could determine quite accurately how many magazines on the list were coming to his town, and know just what he was going to get for his expenditure. In the larger towns he believed the committee would be able to furnish the figures. In the small towns, the representatives of the papers would be very glad to furnish this data. It would be a very great mistake if the National Commercial Gas Association failed to swing the proposition this year, and right away. He was sure that they were going to do it, and if the Iowa District Gas Association puts itself on record in a definite way, it would certainly further the matter.

Mr. Smith said anent the remark by Mr. Haines in reference to the small towns and their local papers, he never yet had a patron come to the office with an advertisement from the local paper in his hand, and ask for a certain thing advertised. but he had them come with the "Ladies Home Journal," or some other large publication, to show him an advertisement of a certain appliance, and to ask if he had it or if I knew anything about it. As he understood it the proposition was merely a matter of general co-operation in advertising over the whole country. The idea was good, but the trouble would be to get the small companies to subscribe, although they were the ones to receive the greatest benefit. They had a bunch of deadheads among the small companies, whose owners would not spend the time so come to the meetings, although they do spend a lot of time in writing to the men who do go, to get experience altogether free.

Mr. Haines said there was much truth in what Mr. Smith said about the smaller companies hanging back, so they must go in business and develop a sentiment in favor of public utilities. If they don't have the continued agitation against them, brought about by a lack of correct information, and the great fund of misinformation that is published by the various muck-raking magazines and journals, would rankle. The national advertising scheme was not a campaign to sell gas because it is cheap. The principle was a much broader one. It was the principle of advertising that benefited the community at large, public utilities in general, and the gas utility in particular. It had been taken up by some of the other utilities, notably the National Electric Light Association, and the National Association of Steam Railways, in an effort to overcome the effect of misinformation. He moved that this Association go on record as indorsing generally the plan of the National Commercial Gas Association, and giving its commendation generally to the work of national advertising. [Seconded by Mr. Martin, submitted and carried.] On motion of Mr. Parker the convention thereupon adjourned.

PROCEEDINGS, TWELFTH MEETING, WISCONSIN GAS ASSOCIATION.

HELD IN MILWAUKEE, WIS., MAY 14 AND 15.

FIRST DAY—MORNING SESSION.

The President (Mr. I. F. Wortendyke) called the meeting to order (red room, Hotel Pfister), at 11 A.M. The roll call was put over, and the minutes of the 1912 session were taken as read.

The following

REPORT FROM THE EXECUTIVE COMMITTEE,
in respect of
APPLICATIONS FOR MEMBERSHIP,

was read by Secretary Harman:

MILWAUKEE, WIS., May 14th, 1913.

The following applications for membership having been referred to the Executive Committee, as provided for in our Constitution, are hereby recommended for acceptance:

Active.

Irwin, O. C. Owens, T. Jasperson, R. O. Phenicie, C. R.

Associate.

Coleman, C.	Johnson, F.	Pratt, Jr., E. G.
Coolahan, F. V.	Knight, A. P.	Smith, C. S.
Douglas, A. C.	Leishmann, W. B.	Smith, Jas.
Fausek, A. J.	Nye, H. G.	Swane, L. E.

Secretary Harman then presented his

REPORT AS TREASURER.

Its figures showed current receipts, plus cash balance (as of May, 1912, $871.29) equaling $2,247.61, and an expenditure (as of April 30, 1913, $1,197.35), equivalent to a balance on hand of $1,050.26.

As Secretary Mr. Harman reported a total membership of 171, of whom 94 were active and 77 were associate.

The President called for reports from Special Committees, and Mr. Ewald Haase reported that the Chairman of the Auditing Committee (Mr. P. F. Buenzel) had resigned. The latter, however, had forwarded a report in which it was stated that the books and accounts had been properly kept and that the finances were as reported by the Treasurer.

President Wortendyke now read the

INAUGURAL ADDRESS.

About 4 years have passed since the gas companies of Wisconsin first came under Commission supervision. Managers and employees of these companies have reason to be proud of the fact that, in nearly all instances, the findings of the Commission have shown that fair prices are in force and efficient service is being rendered. The effect of such findings, by a body of men able to intelligently cope with the problems presented, and having the confidence of the people, has been of great assistance in bringing the public at large to more generally recognize the lighting companies as useful servants, and to realize that both the investor and consumer are getting a square deal. This experience demonstrates the wisdom of publicity regarding the affairs of semi-public businesses; especially as our business is now acknowledged to be a natural monopoly. The public naturally regards anything called a monopoly synonymous with high prices, overlooking the facts that, although there is only one gas company in a city, there are very few uses to which gas is put that do not admit of the use of other agents. So that in all cities there is strong competition between gas, electricity, oil, coal, etc.; and, also, that the best results are secured in the gas business, as in others, by decreasing the margin of profit per unit of commodity, and increasing the number of units sold. With prices of the other necessities constantly on the increase, it is a source of gratification to see the opposite trend in prices of gas, and to know that, with lower prices, there goes increasingly effective service. The higher cost of fuel oil makes a largely increased field for gas for industrial purposes; and it also raises a pertinent question as to the relative costs of coal gas and water gas. Coal gas practice has shown a very marked improvement in results, both with pushed, through, horizontal retorts, and with vertical systems. With large installations and more or less elaborate investment in machinery, there is not very much difference in the total cost of making coal gas on horizontals or on verticals; but indications are that for the smaller installations there is a special field for vertical retorts charged and discharged by gravity instead of by complicated and expensive charging and discharging machines.

Wonderful strides are being taken in methods of selling gas, and it is now realized that the same successful methods, utilized in selling other merchandise, apply equally to selling gas. To-day the sales department ranks with the engineering department, and both realize that they are inter-dependent. Advertising is deserving of careful consideration; but most of the advertising done must of necessity be local, yet there is common ground of appreciation of the usefulness of the commodity we supply to everyday wants. Advertising along these lines is of value to every gas plant, wherever located, and of whatever size. A plan for a nation-wide advertising campaign along lines of common interest should receive our hearty support. The accounting department, in many cases, is not appreciated at its full value; especially the importance of a proper classification of expenditures, making possible frequent analysis of costs. The management of most plants is to day so efficient that it is hard to effect any material saving in cost of gas by any single change. It is, therefore, more than ever necessary to analyze costs very carefully. If we can save a fraction of a cent in several operations the total is very gratifying. The value of proper classification becomes of prime importance under State supervision, where earning capacity of capital is regulated. A too-high apparent percentage of profit may be due to the fact that the proper reserve funds are not created, and earnings paid out as dividends, that should be set aside for rehabilitation of plant and equipment. On account of the large number of interests operating both gas and electric plants, and because in many ways both properties are equally affected, it has been suggested that a joint committee be appointed to look after such matters as touch both.

Secretary Harman asked the pleasure of the Association in respect of the President's address, and it was ordered that it be referred to a committee for consideration and report.

The President introduced Mr. Guy F. Gregg (Milwaukee) who read the following paper on

SELLING METHODS.

While the topic assigned to me by our President has been considered at a great many gas conventions, it is possible that some new thought may be brought out as we examine the subject from different angles.

There is no question that selling methods, as applied to gas companies, have undergone great changes in the last few years. We all know that formerly no particular effort was made by gas companies to sell gas appliances, most of them depending on hardware men and others to take care of the wants of their customers. The policy is somewhat different at the present time, inasmuch as we are now interested, not only in selling gas, but in selling service; and great emphasis is placed on such fact by all companies. They are interested in having their consumers secure good service; and believe in starting them right; seeing that the right kind of appliance is purchased, that it is properly adjusted, and that the consumer understands its proper use. Our Company does this with industrial appliances, and has demonstrators following up the sale of ranges to make sure that our customers thoroughly understand them.

It has certainly been demonstrated that it is better for companies to carry the right kind of appliances and dispose of them at a reasonable profit. A good share of the complaints about poor service is due, either to the fact that people do not buy the right kind of appliances, or because they do not understand the proper way to use them. This can be overcome, to a great extent, if the people can be brought to feel that the gas company's shop is the proper place to buy gas burning appliances. A striking departure in selling methods, practised by gas companies during the last few years, is a campaign for special articles, such as irons, reflex lights, etc. The question is sometimes raised as to whether campaigns of this character are not analogous to revival meetings, in that they are of no particular lasting value. I am of the opinion, however, that they are of great ultimate value to the gas companies. In recent campaigns on reflex lights, we disposed of over 20,000 each season. You are probably aware of the details of a campaign of that kind, and I merely wish to call your attention to the ultimate good obtained. In Milwaukee we clearly demonstrated, during the last campaign, that we not only retained gas lighting in many homes, but also displaced electric lighting, particularly in rooms like the kitchen and living room, where we had the benefit of long hour consumption. Acquaintances who used electric lighting in the majority of their rooms told me personally, that there was no other reading light to compare with the "Amber Glow." I think the feature of this selling method, where no money down is required on the order, and where the payments are made with the gas bill, results in very many sales where an order could not be secured on any other basis. It is somewhat a matter of psychology, that there cannot be as much resistance to a sale where the light is right on the ground, and is put up so that people have an opportunity to see it, rather than having the salesman just talk about it. Our salesmen reported that, where they were able to demonstrate a light, it nearly always resulted in a sale. That we wanted no money down, and were willing to guarantee the light for 3 months, making our collections with the gas bill, showed our confidence in the light, because we could not make them keep it if the light was not satisfactory; but I am glad to say that very few lights were taken out on that account. More systematic effort is being made to get after business than in the past, and conditions are looked up more thoroughly. We also have a set period for pushing particular lines of appliances. Formerly not much attention was paid to the kind of advertisement; but to-day all of our advertising is based on the kind of work that the salesmen are after at that season of the year. Our Company was one of the first to adopt a comprehensive advertising policy; and, while it is difficult to measure exactly the results traceable to any particular advertisement, or series of advertisements, there is no doubt in the mind of any one in our Company that persistent advertising has been the means, not only of largely increasing our sales of appliances, but in building up confidence in our goods on the part of the public. We have found it profitable to have the advertising department in close touch with the sales department, so that the man who prepares the advertising matter may get from the salesman data on the attitude of the consuming public toward the gas company; and, on the other hand, that the salesmen may know what the advertising man has in mind. Without this co-operation between the advertising and sales departments, it is certain the best results cannot be obtained.

Another feature which all large companies have found necessary, is the speciallzing of men for certain departments. Nearly all lines of business have come to this during the past few years, and the large gas companies too have found it necessary to consider this phase. For instance, in one department we have a special salesman for hotels and restaurant business, and in this way have kept in closer touch with our large consumers, suggesting improved equipment, and turning over a good many coal appliances to gas. A special salesman of this kind frequently prevents people from buying expensive gas equipment which their need does not warrant and it is also possible to install ranges, etc., where formerly cheaper ones were brought from outside sources. Another man devotes all his time to architects, keeping in touch with them. Thus, many buildings have been properly piped, when, without this attention, they might have had no gas piping, or else the drops might have been placed so that they could not be used to advantage. This man also keeps in touch with all the new homes being erected, with the view of selling proper water heaters, laundry dryers, fireplace heaters, etc. We also have men making a specialty of industrial propositions. This is an absolute necessity where any large number of manufacturers are located. We have found through experience that many appliances of this class are purchased direct from the makers, and the agents rarely trouble to instruct people in their proper use. This is particularly true of furnaces operated with air pressure. In addition to this, we have found it necessary to have a man superintend the installation of all large illuminating propositions.

I might also say something about salesmen. This big subject has been written upon from all angles, but never exhausted. The main requisites are a good knowledge of the goods one is trying to place on the market, a persistent hardheaded, commonsense method of selling, and careful study of human nature in general. The salesman must, of course, have confidence not me rely in his own ability, but also in the company he represents; confidence in its intention and ability to back up his promises, confidence in the commodity he is selling, and also in his fellow workers. While there is no doubt that the man who is a born salesman has a great advantage over his less fortunate brothers, we have found that it is possible to stimulate these powers in our salesmen, by frequent meetings for the discussion of selling problems. In this connection our Company found it highly advantageous to adopt the National Commercial Gas Association's course of study, and we have a class of 25. Monthly meetings are held for the discussion of the lessons, frequ ently the debate embracing, not only the subject of the lesson, but many interesting situations that come in the course of a saleman's duties. The born salesman, if he may be termed such, gets, from the course of lessons, the reason why he does certain things that have been found effective. The saleman who is not "born," benefits even more, for he adds to his selling knowledge, and is able to overcome some of the difficulties that have prevented his attaining the greatest success. We are often tempted to analyze salesmanship methods, and we generally come to the conclusion that, after all, the foundation of the whole matter is commonsense; but when we speak of commonsense, we really mean uncommon sense, for commonsense is not as common as the name would imply. Therefore, the study of the psychology of salesmanship, as applied to the gas business, is one of our effective selling methods.

Recently, having occasion to address a company of young men on the subject of salesmanship, I was impressed, in the preparation of my data, with the fact that it is difficult to reduce to definite terms the things that go to make success in salesmanship. I put forth the conclusion, however, that salesmanship after all is ability to grasp the essential features necessary to give a line of argument and consummate a sale. A salesman to be successful must combine commonsense and business imagination, with tact. These are the most important elements in the makeup of a salesman. We have found that the science of salesmanship, as outlined in the course of lessons, is applicable not only to the man on the outside, working up new business, but to the salos' force inside. A salesman on the floor has an advantage over a man outside, in that he does not have to prepare an approach to an unreceptive prospect. While many important elements are absolutely necessary to success, the man on the outside plans how to get into a place of business, and to see the proper person at the proper time. Having gained admission he must so frame his

talk, to build up a desire, and finally consummate a sale. This requires not only much commonsense, but a knowledge of human nature and the psychology of salesmanship. The salesman inside has the advantage of dealing with the person whose desire has reached a point that actuates sufficiently to take him to the company's salesroom. We try to impress upon our inside salespeople that the test of salesmanship is, for instance, to convince a prospect who comes to buy a single oven range, that it is more advantageous for him to own a cabinet range. This can be done in many cases, if the salesman is properly trained for his work, and it accounts, in my mind, for the differences in the total business done by salesmen in the course of a week. One simply takes a customers' order, while the other, by the exercise of a high grade of salesmanship, swells the total amount of his sales, and, more often than otherwise, succeeds in pleasing the customer better than the one who is satisfied merely to take orders.

Every progressive gas company will come to realize more and more that, while as a rule the gas business by its very nature is a monopoly, the illuminating business, the fuel business and the power business, cannot be monopolized; and it is up to the new business department to realize that there is no monopoly of these things, and thus employ the highest form of salesmanship in selling gas appliances; for when the appliance is sold the sale of gas will take care of itself.

Discussion.

The President, in inviting discussion, remarked no man lived who had nothing to sell. The laborer had the work of his own hands, but from that on it went to the highest plane. All there had something to sell, and the success of their business depended upon the success with which they inspired others with confidence in what they had to sell, and induce the prospect to purchase. He hoped the discussion would be thorough.

Mr. Haase said that morning he had been shown a copy of the 1913 "Britannica Year-Book," from which he would read into the discussion:

Gas Lighting.—The incandescent gas mantle, upright and inverted, has made steady headway during the past few years, and the great gain in light that can be obtained by increase of the pressure under which the gas is supplied, has been taken advantage of in constructing lamps for the illumination of large spaces. The most important outcome in gas lighting is the continued change of opinion that is gradually taking place with regard to its hygienic effect on the air of enclosed spaces. When the electric light was first introduced, as a domestic illuminant, the fact that it took no oxygen from the air, and gave off no products of combustion, led to the assumption that it must be more healthful in a dwelling room than gas, which not only abstracted oxygen, but evolved, as products of combustion, water vapor and carbon dioxide; the amount of which latter gas in the air of a room having been taken by the sanitary authorities as an indication of its hygienic condition. The researches of Dr. S. Rideal, and others, have shown conclusively that the air in the breathing zone of an inhabited room lighted by the incandescent gas mantle, is always fresher and less oppressive than with electric incandescent burners; and that the increase in carbon dioxide and humidity which one would expect, is not found, whilst a large decrease in the organic matter takes place. This is explained by the fact that the uprush of heated air and products from the burner draws up the emanations from the skin and lungs of the occupants, charring and sterilizing any germs and organic matter that are present, and, reaching the ceiling at a temperature of 12° C. higher than when electric light is used, diffuses so rapidly through the plaster as to draw in fresh air below the door of the room; and whilst so diffusing, filters off the carbonized organic matter and dust on the surface of the plaster, giving the blackening that is always found above a gas burner, which is often erroneously attributed to imperfect combustion.

"Air movement, coolness, humidity and reduction in the mass action of pathogenic bacteria, are now recognized as being of far greater importance to health than the chemical purity of the air, and the convection currents and change of air set up by the heat of the incandescent gas burner lead to a fulfilment of these requirements far better than the electric light.—V. B. Lewes."

The President said it was well worth while to know that the dark color on the ceiling over the lamp was ocular demonstration of the efficiency of the lamp as a sterilizer of the atmosphere.

Mr. Stroebel was well pleased with Mr. Gregg's paper, but he thought it hardly applied to some of the smaller fellows. The salesmen in small cities had to take care of all the different appliances, and there was no man for special work. Almost anyone in their employment could take up any part of the work, from gas making down to office, and they were handicapped from the fact that a man could remain at one line of work all the time. In salesmanship, as they found it one must keep everlastingly at it. They had appliances in their small city of which they were proud; and they could have sold many single oven ranges, but they never tried to sell them. They tried to sell cabinets, and if the salesman made up his mind to sell a certain article he could sell it by going at it the right way. One would find 9 times out of 10, that a lady is better satisfied with the cabinet range than she would be with the single oven type. They started in business something over 3 years back, and at first sold quite a few square ranges. Later on though these purchasers would ask to exchange the square ranges for cabinet ranges. People did not like to have to stoop over into an oven, and if a salesman presented that point from the beginning, he would sell the customer the proper range, and we would have a satisfied customer.

Mr. Patten asked if it were more satisfactory to have a single oven range? Also would not the objection to stooping be greater with a double oven range than with a single one?

Mr. Stroebel could not understand how it was different with a single or double oven, if it were a square range. One had to get down to see the oven if the burner tops were on the same level.

Mr. Patten remarked that, as the broiler in the double oven range was seldom used, the person in charge being unwilling to stoop to examine the interior, he believed they should push either the single oven range or the cabinet.

The President noted Mr. Gregg said the salesman frequently prevented people from buying expensive gas equipments which their needs did not warrant, and the speaker thought, when the circumstances do not warrant, it was unwise to urge people to buy expensive ranges. A certain size range was adapted to certain incomes, and he did not think they should try to make persons believe the cabinet range had greatly better efficiency than a single oven range.

Mr. Newberry said they could not disregard the single oven range. If they undertake to sell cabinet ranges exclusively, they were wrong. In many homes it was impossible to get a cabinet range; but there were many homes in which one could place a single oven range, selling from $14 to $18. If they make too strong a lead on the cabinet range line they would drive poorer customers to the hot plate, so the idea was to steer them from the latter to the single oven.

Mr. Kelsey thought it far preferable to sell a single oven range than not to sell a gas burning appliance at all. Having had occasion to analyze the sales of ranges, it was interesting to find, in the first few years, 33⅓ per cent. of the ranges they sold for $25 were out on lease, and it was reasonable to assume the users were women who did their own work. Further, it was found easier to sell a cabinet range to one who did her own work than to one who seldom went into the kitchen. They also determined, as the double oven range sold for $19, and the cabinet at $25, it was good salesmanship to try to sell the latter to the woman who did her own work. He was interested in noting the development of the house-to-house campaign idea, and in listening to discussions on the subject at a recent State gas convention not long ago, one speaker, who had been very successful in the new business department, maintained it was injudicious to put on any house-to-house campaign without experienced men. It was claimed that it was poor work to attempt try to train several in a short time and send them out. It was maintained, in opposition, that in many cases gas companies were thus holding a vast amount of lighting business that would otherwise go to the electric companies, and it seemed to be the general opinion that the best there is in retail merchandising could be taken over to the gas man's benefit. The department stores at Christmas time did not fear to bring in hundreds of clerks and coach these inexperienced people for a few weeks' work. By coaching inexperienced solicitors, successful and satisfactory results could be had. Many companies were selling lights and irons from house-to-house. And one large company was making plans for campaigning the circulating water heater from house-to-house, also ranges by the same method.

The President said, when sending out inexperienced men, close supervision should be had over them; and experience thus gained was far in excess of the slight disadvantages encountered.

Mr Stroebel thought Mr. Gregg's paper applied satisfactorily to conditions in large cities, but those in small cities had different conditions, especially in instances (such as theirs) where people owned

(*Continued on page 42.*)

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NOTICE TO ADVERTISERS.

New Advertisements and changes of copy therefor should be in hand Wednesday noon of week prior to date of issue.

NEW YORK, MONDAY, JULY 21, 1913.

[Official Notice.]

Transportation Arrangements, October Meeting (Richmond, Va.), American Gas Institute.

American Gas Institute,
Office of the Sub-Committee Transportation,
141 Wabash Ave., Chicago, Ill., July 15, 1913.

Special trains to Richmond, Va., will be run from New York, Philadelphia and Cincinnati. The New York train will stop at Newark and Trenton, N. J. The Philadelphia train will stop at Wilmington, Del., Baltimore, Md., and Washington, D. C. The Cincinnati train will be composed of special cars from Cincinnati, Chicago, St. Louis and Detroit-Toledo.

The New York and Philadelphia trains will leave from their respective cities, the morning of Tuesday, October 14th, arriving in Richmond the same afternoon. The Cincinnati train will leave Cincinnati the evening of Monday, October 13th, arriving at Richmond, Tuesday afternoon. Special cars from Chicago, St. Louis and Detroit-Toledo, will be attached to the Cincinnati train and will leave their respective cities Monday morning, October 13th. The Boston contingent will be scheduled out of Boston, Monday evening, October 13th, via Fall River Line, although those preferring to do so can leave that city at midnight by train, and reach New York in ample time to make connections with the New York special Tuesday morning. While the arrival of these special trains at Richmond has been so timed that they will reach that city about one hour apart, for greater convenience in registrations and securing accomodations at the hotels, all the trains will reach Richmond in ample time for dinner that evening.

The New York special train will be in charge of Mr. W. Cullen Morris, Consolidated Gas Company, New York City, N. Y. The Philadelphia special train will be in charge of Mr. J. B. Klumpp, Inspecting Engineer, United Gas Improvement Company, Philadelphia, Pa. The Cincinnati special train will be in charge of Mr. William H. Crutcher, Superintendent, Kentucky Heating Company, Louisville, Ky. The special cars from Chicago will be in charge of Mr. J. M. Moorhead, Chief Chemist, Peoples Gas Light and Coke Company, Chicago. The St. Louis special cars will be in charge of Mr. S. H. Wallace, Assistant General Manager, St. Louis County Gas Company, Webster Grove, Mo. The Boston contingent will be in charge of Mr. N. W. Gifford, General Manager, East Boston Gas Company, Boston, Mass.

The Trunk Line Association, the New England Passenger Association and the Southeastern Passenger Association have authorized reduced rates from points covered by their Association, to Richmond, Va., on the certificate plan.

The itinerary of these "Specials," with full particulars as to fares and Pullman rates, with return postal cards requesting reservations, will be mailed to all members of the American Gas Institute about one month prior to the meeting.

B. J. Kellum,
Chairman, Sub-Committee Transportation.

BRIEFLY TOLD.

Obituary Note, Mr. J. Armitage Drake.—Last week we briefly noted the death (on the morning of the 4th inst., at his home in Halifax, England) of Mr. J. Armitage Drake, who was particularly well-known to the Canadian fraternity through the large part taken by his firm (and conducted by himself personally) in the construction of the magnificent new gas plant for the Consumers Gas Company, Ontario, Canada. For that matter, Mr. Drake was also well-known and greatly liked by the fraternity on this side of the Great Lakes, through his frequent visits to this section of the States. Through the courtesy of Mr. M. T. Thompson, Superintendent of Drakes, Limited, and from the story of Mr. Drake's life, as published in the current, to-hand number of the *Journal of Gas Lighting*, we are enabled to present these facts concerning it. Born in Halifax, July 2d, 1851, he had just been congratulated on the 50th year of his connection with the important Company named. The firm of Drake's Limited, was founded by the late Mr. Jonas Drake, 60-odd years ago, who was father of the deceased; and its great development is largely due to the initiative and and activities of the son. As the *Journal* remarks, he was a shrewd, capable business man, particular as to detail, and watchful that everything turned out in his name should be of the very best workmanship. In this way, the firm's reputation, not only in England, but in other lands, quickly spread; and Mr. Drake had a remarkable record of foreign business tours. From a small beginning, the business rapidly extended; and 23 years ago the works were transferred to Ovenden. On this site extensions have been made from time to time, until now the works assume huge dimensions. Twelve years ago, the firm was converted into a limited liability company, with Mr. Drake as Chairman—a position that he filled with credit until his death. His relations with the employees, numbering about 700, were always of the happiest character. He was held in the highest esteem, for his fairness and considerateness, and was looked upon as a model employer. Last year, on the occasion of the opening of the new power plant at the works, he was presented with a rose-bowl from his co-Directors as a token of esteem. His two sons—Mr. William Armitage Drake and Mr. J. Wilfrid Drake—have both been trained in the business, in which they have for some years taken a responsible part. In the religious, social, commercial and political life of Halifax, Mr. Drake always took a deep interest. In 1906, he was placed on the Commission of the Peace for the borough. He was a member of the Chamber of Commerce; and in 1901 he was elected unopposed to the Halifax Town Council, where his expert knowledge was desired to assist in placing the gas undertaking on a sound basis. As a member of the gas committee, he devoted himself unsparingly, and with complete success, to assist in carrying out the work the ratepayers had given him to do. Having accomplished this, he relinquished public work 2 years later in order again to devote the whole of his time to business. Mr. Drake was a Vice President of the Halifax Trade Protection Society a position he had held for 12 years. He was also a member of the Council of the Association of Trade Protection Societies of Great Britain; and here, as in every other branch of activity, he won the esteem of all who had been brought in touch with him. He was a member of the Society of British Gas Industries, and was Chairman of the Retort Setting Section. The large works at Ovenden were visited a few weeks ago by the members of the Yorkshire Junior Gas Association. In Freemasonry, the late Mr. Drake was a prominent figure. Besides being a Past-Master of the Acacia Lodge (Bradford), and one of the founders of the Ionic Lodge (Bradford), he had received provincial honors, for at one time he held the office of Provincial Grand Superintendent of Works of the West Yorkshire Province. Mr. Drake leaves a widow, for whom and the two sons already named the deepest sympathy is felt. Reference to the loss the town had sustained was made by the Mayor at the Borough Police Court on the 11th inst.

Obituary Note, Mr. Floyd G. Smith.—The many friends of Mr. Floyd Gleason Smith, the Commercial Agent of the Sioux City (Ia.) Gas and Electric Company, are shocked over his sudden death, which

occurred in Sioux City the morning of the 11th inst. That the end came altogether unexpectedly will be comprehended when it is stated that he was shaving when prostrated by the fatal heart dilation stroke. Deceased was born in Denison, Ia., November 5, 1882, and, 5 years later, journeyed with his parents to Sioux City, in which place they subsequently made their home. He acquired his education in the local public schools, and was graduated from the High School, Class of 1902. In the fall of that year he entered the service of the local gas company, as office boy. Being industrious and alert his advancement was speedy, and he filled various positions in the accounting division of the corporation (1905) and eventually (1910) was promoted to the position of Commercial Agent. The tasks of this place were carried out by him in manner most successful, both in respect of the corporation's affairs and to his personal popularity. He was connected with many of the social activities of Sioux City, and a valued member of the Civics Clul . He was prominently identified with the Iowa District Gas Associatio. d was also an active member of the National Commercial Gas Asso.ation. To show the place he held in the esteem of his employers, we may here properly quote an estimate given of his worth, told by Mr. L. L. Kellogg, President of the Sioux City Gas and Electric Company, while conversing with a reporter of the Sioux City *Tribune* regarding Mr. Smith's death: "Mr. Smith rose from office boy to Manager of our New Business Division in 8 years. He was one of the most reliable, active and competent men that we ever had. He handled his difficulties with utmost ease and intelligence. He had a cool, level head, and could be absolutely depended upon in the case of an emergency. We all very much regret his sudden death." He is survived by his wife, two brothers and a sister. The funeral services were had in his late home, the afternoon of the 13th inst., and the pall bearers (Messrs. Henry Hoskins, C. E. Goetz, C. A. Nash, Chas. H. Orpin, Ralph Herrick and O. W. Herrod) were from his fellow workers in the Sioux City Gas and Electric Company.

JULY MEETING, PHILADELPHIA SECTION, NATIONAL COMMERCIAL GAS ASSOCIATION.—"N.," writing from Philadelphia, under date of the 16th inst., says that the Philadelphia Section of the National Commercial Gas Association held its second annual outing, the evening of July 15th, which was in the nature of a moonlight trip down the Delaware river, on the steamer "Columbia." The ladies were present, in all their "splendor and beauty;" for this is the "one time" during which the Section opens wide its doors of hospitality to those who, as a rule, are unhappily left at home. Here, however, their presence completed the necessary touch to make the evening a complete success. An informal dance was had on the quarter-deck, the music being furnished by the Section's orchestra, ably and artistically conducted by Mr. Canning Stock. Of course, it may be taken for granted that the aforesaid form of entertainment proved the stellar attraction of the evening. The night was ideal; a 90 per cent. moon and cloudless sky, being the happy natural externals. The "Columbia" left the Arch street wharf at 8 o'clock, carrying approximately 900 people. Stemming a strong tide of the flood variety, it managed to reach a point half-way between Chester and Wilmington, before it was time to sound the return journey; and the home moorings were reached by 11 o'clock. The entire trip was quite an innovation for the Section and afforded the members and their families an opportunity to revel in the vitalizing air of a magnificent summer evening. The next meeting of the Section will be held the last Thursday of September.

THE MEETING OF THE HEADINGS, ASTORIA TUNNEL, CONSOLIDATED GAS COMPANY.—Thursday last marked another step in the construction of the $5,000,000 tunnel between the Bronx section of New York city and the Astoria plant of the Consolidated Gas Company. At 3:40 P.M. some 20 invited guests saw President Cortelyou and "Chief" Bradley fire the shots that blew down the last road barrier between the tunnel headings driven from the opposite sides of the East river. The party having crawled through the 3-foot opening and walked to the shaft at the Bronx end, were then raised to the surface in the construction cage. Here the guests drank a toast to the Company and its officers, and, after registering as having made the journey under the river, returned to Astoria on a tug boat.

The tunnel, started in September, 1910, is 21 feet high by 19 feet 9 inches in width; driven through solid rock at an average depth of 250 feet. It is lined throughout with concrete; and including the shafts is 5,171.79 feet in length. Many constructional difficulties have been encountered from time-to-time, that sensibly delayed the work and added largely to its cost. The entire work has been done under the general direction of Mr. Wm. H. Bradley, Chief Engineer, Consolidated Gas Company, and his assistant, Mr. W. Cullen Morris, with Mr. Harold A. Carpenter, Resident Engineer. The supervisors were Jacobs and Davies, Inc., Tunnel Engineers, Mr. Vivian Messiter being their representative on the ground. When making the electrical contacts that fired the shots, President Cortelyou and Chief Engineer Bradley used special switches made of rock taken from the tunnel, gold mounted and suitably inscribed, which will be retained as souvenirs, and which they affirm will be used hereafter as desk clocks.

ANNUAL MEETING, THE GERMAN ASSOCIATION OF GAS AND WATER ENGINEERS.—Mr. Edward L. Rieha, writing from Strassburg, Germany, under date of the 26th ult., sends this interesting mention—it came to hand just 24 hours late for printing in our issue of the 14th: "It may be of interest to have a line or two respecting the details of the Fifty-Fourth meeting of the German Association of Gas and Water Engineers, which was held in Strassburg, the 23d to the 26th of June. The meeting place was in the new, handsome and spacious Saenger Haus, under the direction of Herr B. F. Reese, of Dortmund; and it seems up to me to say that an excellent President he certainly proved to be. About 400 members were present, and the attendance during the sessions well attested the earnestness of the delegates. These papers were read in the following sequence: "Gasholders," by that grand veteran Director E. Körting, of Berlin; "Gas and Hygiene," by Prof. Doctor von Gruber, of Munich, whose splendid presentation of this live subject is really a "Classic" on the subject; and a scholarly treatise on "Flameless (or Surface) Combustion," by that well-beloved member of the fraternity, Dr. Hans Bunte, of Karlsruhe. The third day was again devoted to the gas division, the water engineers having the second day to themselves. This session was especially notable for a most interesting paper, by Dr. Karl Bunte, of Karlsruhe, on "The Development of Gas Furnaces," received great acclaim, and was further accentuated by a lengthy discussion, a prominent phase of which was in the concluding chapter, contributed by Prof. Strache, of Vienna. He presented a diagram of a combustion retort bench and water gas generator, which process had been tried out (it is still in operation) in Vienna for virtually a year, with apparent good success. The meeting was brought to an end with reports from the various commissions of the technical committees. A very pleasing entertainment series was successfully and hospitably carried out. One very beautiful and inspiring section of such entertainment was a trip to the historic and magnificent Rappoldweiler Castle, with its grand environment of vineyards."

CURRENT MENTION.—

MR. HENRY PORTER, of Manhattan, Kas., has formally taken charge as Manager of the gas properties at Junction City, Kas.

JUDGE MATTHEW O'DOHERTY has been appointed Chief Counsel for the Louisville (Ky.) Gas and Electric Company. He was Manager MacDonald's legal champion in several of the celebrated legal battles between the lighting suppliers of Louisville at the time the suppliers did not sustain such "harmonious relations" as those now existing.

MR. M. A. GILBERTSON, recently appointed Superintendent of the Freeport (Ills.) Company, took active hold of the works about a fortnight ago.

THE Manufacturers' Committee of the Des Moines (Ia.) Commercial Club has announced that the Blau Gas Company, of Iowa, will establish a central plant in that city. It is said that the investment therein on such account will be not far from $200,000.

MR. C. A. RUNYAN, of South Haven, Mich., has been awarded the contract for laying the stretch (7 miles) of pipe necessary to convey a supply of gas from the plant of the Niles (Mich.) Company to and through the outlying settlement of Buchanan.

MR. BANKSON TAYLOR, Sales' Manager for the Consolidated Gas Company, of New York, died at his home 226 Wadsworth avenue, N. Y., the morning of the 12th inst. He was born in Philadelphia, October 21st, 1866, and is survived by his widow and a daughter.

ON July first the proprietors of the Western Fuel, Gas and Power Company notified the residents of Redondo Beach, Cal., that, dating back to the first inst., the rate of $1.25 per 1,000 would rule. This is a concession of 25 cents per 1,000.

THE Empire State Gas and Electrical Association held its quarterly meeting in the Onondaga Hotel, Syracuse, N. Y., the afternoon of the 10th inst., and was well attended. As usual, the session was given to considering matters technical and business relating to the conduct of such by the companies represented.

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their homes. There, when they bought gas appliances, the articles formed a permanent fixture.

Mr. Butterworth said he represented one of the smallest plants in the State, and for a long time was uninformed on the subject of gas appliances. At last the question, the size and style of ranges, became a vital one, and he discovered from experience that it took good salesmanship to hook them up. An analysis showed that a great many people could afford and should have had a cabinet range, but they would not give up their coal stoves. They could not see it from the Company's view point. They had to use a square range and were very successful with it. Having discovered that most everybody wanted a hot plate, they found a price of $4.50 on a 2-burner, hot plate, going to $6 for a 3-burner, giving the purchaser an agreement to take the hot plate back at any time, and apply the purchase price on a range. That little hot plate was the entering wedge to their putting out a number of cabinet ranges. He believed they did not have 50 hot plates in use to-day. They came back and keep coming back. They clean them and put them in service again, although they always protest against such a purchase. However, they did not let a customer get away. The customer gets what he wants, but they tried to impress the customer that the Company was looking out for his interest. Thus they had gained the confidence of the people who were buying an unusually high grade of range for a small country town. The hot plate practice was the means of selling more high grade ranges than anything else they had ever done. They had a great many retired farmers who owned wood lands, and it looks a hard proposition to sell a gas stove to a man who has wood to burn. They get them by demonstrating through selling their wood they got more than enough to run a gas range.

Mr. Patten said from Mr. Gregg's paper he took it that the double oven, standard range was not considered at all. In the comparison he used only the single-oven type. He asked if the Milwaukee Company pushed the standard, double oven range with low broiler?

Mr. Gregg said yes, for they found many homes in which there was not room for a cabinet range. Architects had a habit of leaving only about 36 inches space for a range. They sold the double oven in preference to the single, but with their large foreign population, many did not know what a broiler was. In the Polish districts when they put up a home they buy a hot plate. Later on and in a couple of years they raise the house another story, make a flat underneath, giving the h t plate to the newly married daughter, buying a range for themselves. To that class of people they sold the single-oven range. Records showed that, while their sales of double-oven ranges had increased, their sales of single-oven ranges become less each month. If one could not sell a good range one must take what he can get, with the hope that one's customers can be educated to a broiling basis. He realized the conditions in Milwaukee were different than in most other towns represented in the Association, or where one could not afford capable specialists. He called attention to the fact, that when one "got larger" he would have to employ specialists. One must sell his customer an appliance that suits his case. They have people ask for a hotel range only to find they had boarding houses with no short order business, so a hotel range would not be an economical proposition.

Mr. Haase wondered if there were not something of value in the paper to smaller companies. It was true they could not employ a special man for each specialty developed, but could not one man be a specialist in several different things? For instance, at the proper time of the year could he not superintend and direct the employment of one or more special canvassers on reflex lights? At another time he could work heaters perhaps along lines similar to those adopted by the large companies. At another time he might devote his special attention to gas irons, etc. As a matter of salesmanship he thought it certainly advisable to sell cabinet ranges rather than other types. He remembered an instance where a woman asked to have her single oven stove exchanged for a cabinet range, she was one of five or six families in that block that had just put in gas. The main had been extended in the street. And simply because she exchanged her single oven stove for a cabinet, then extolled the merits of the latter to her neighbors, all the families in the vincinity exchanged the single oven stoves for cabinet ranges. He maintained it would have been salesmanship to have talked cabinet range to them originally.

Mr. Parker remarked Mr. Gregg said tact was the foundation of salesmanship. Tact meant consideration, care, honesty and diplomacy; and if he were in a similar position he would develop that one thing in his salesmen. If a man did not possess tact he would never send him out as a salesman, and while tactfulness was the greatest of all mental possessions, it could usually be acquired. He always admired the broad policy of the Milwaukee Gas Light Com- in carrying most every type of range. That policy had been successful, and the standard of their ranges had been raised until the people appreciated that the cabinet was what it should have been, and that had been brought about through educating the people from the hot plate to the single, double, and finally the cabinet range. What applied to their member in Fort Atkinson was not parallel to the requirements of Milwaukee. He knew a firm that bought 5,000 ranges last year, 3,500 to 4,000 of which were single-oven. A certain element in Milwaukee wants a single-oven range; and he would make this suggestion to those who have salesmen on the floor. When a woman comes into the appliance room to buy a single-oven stove, on knowing what price she is willing to pay, sell her the single-oven stove; after you get the order sell her the cabinet. Do not try to sell her something she does not want. Having gotten her confidence and sold her the single-oven it is much easier to switch her to the higher priced range that she should have. That will help wonderfully. Sell her the single-oven range, then, tactfully, show her something better. Demonstrate the advantages of the better and more desirable article, and you will sell her the elevated range.

Mr. Curtis said the discussion of the merits of the single and double-oven, square stoves and those of the cabinet type was of very great interest to him. He would ask Mr. Gregg if it were not his experience that, when they sold a customer a double-oven or single-oven stove, and it had been used satisfactorily to its eventual wearing out, when the customer wanted a new stove, didn't he usually buy a cabinet?

Mr. Gregg replied that at least 4 out of 5, when they replace an old, standard range, buy a cabinet if they have room for it. The other day one of their solicitors in the Polish district sold three or four hot plates, and said to him that 2 years ago he might have been fired for so doing. He did not say anything more about it, but shortly after the solicitor reported he had prospects for two or three hot plates, but would not take the orders. Asking "What became of them?" replied, "They bought their hot plates from a hardware man." I then informed him he should not take literally everything I said in the morning—I might not be feeling first rate. They had recently taken up a stove half-way between the hot plate and a single-burner range. It carried three burners and a 12 by 16½ oven, with broiler burner and baking burners. They were putting them out at $12, and sold many of them in the Polish district.

Mr. Strobel said when they sold appliances of any kind they should sell only what the manufacturers would guarantee. They bought no appliances unless the manufacturer stood back of them. When they put out an appliance they made a good proposition, and put it out on 30 days' trial. They very seldom had to take anything back. In their small city they had had several demonstrations, and in each lesson they gave special attention to the broiler, finding it to be a good thing. People who used the broiler used more gas than in frying, for a steak could be fried easier on top of the stove than when broiled. However, some of them learned that the steak so cooked was not as good as when broiled properly, and they taught them to such effect.

Mr. Parker said the Peoples Gas Light and Coke Company, of Chicago, advanced the price of double-oven ranges to $24, and that of the single-oven to $20, for the purpose of increasing sales on the former, and decreasing them on the latter, yet they sold as many single ovens after as before. With a $4 difference between the two, a stout barrier exists. He advocated the cabinet range, but he knew there was a place for the single oven, from the numbers sold every year. He thought they were wasting time trying to eliminate the single oven.

Mr. Patten asked if the cabinet stove were not primarily brought out to take the place of the double-oven, old type, standard stove?

Mr. Parker said it was not; they were simply advancing through becoming educated. Where they burned candles formerly oil was used; then came gas. He thought Mr. Patten was mistaken as to experimentations. It was an experiment with them that proved very successful; but it was not done to eliminate either the double-oven or the single-oven. They went at it carefully, and felt the pulse of the gas fraternity before they made any stock to amount to anything. It was simply a question of education, and as we were developing new fields, we found room for the hot plate and the single oven. They would be surprised to learn of the cookers with ovens 12 by 18 that were sold. They sold them

by the carload. They could not sell one, but there was a field for them. They go into small apartments, to people doing light housekeeping, etc.; it was a means of selling gas, therefore, either immediately or ultimately profitable. Anything that would burn gas had its place. Reverting to the salesman. If a man goes to buy a necktie and the clerk sells him a shirt and suspenders, that is salesmanship. Mr. George Williams, who represents the Henry L. Doherty interests, gets his salesman that way. Development of his men is the secret of Mr. Williams' success. Knowing all the earmarks of a salesman, he had seen him buy $4 or $5 worth from a clerk, and then hire the latter, because in him he saw the genius of salesmanship.

Mr. Goodnow said a little booklet had recently been gotten out by the Mobile Gas Company, which illustrated the point that the use of gas promoted the health of the family by improving ventilation, destorying germs, and reducing eye strain. Quoting approximately the language of Prof. Lewes and other authorities on that subject. It is encouraging to know that a company in the far south in selling lighting appliances is meeting with such great success. One of its selling methods (and it is unique) is about like this: A number of moderate sized companies far south were meeting with full as much success as we in the north, in selling lighting appliances, especially in arc lights and inverted burners.

On motion a vote of thanks was passed to Mr. Gregg for his useful paper.

(To be Continued.)

The West Virginia Public Utility Commission.

The new West Virginia Public Utility Commission opened offices at Charlestown the first inst. The members appointed by the Governor are: V. L. Highland, Chairman, Clarksburg; Charles H. Bronson, Huntington; Howard N. Ogden, Fairmont; Wade C. Kilmer, Martinsburg. The creating act provides that not more than two shall belong to the same political party, and one member shall be a lawyer of not less than 10 years actual experience at the bar. The concurring judgment of three of the commissioners shall be deemed the action of the commission, and the attorney general shall perform all legal services required by the commission.

No person, while in the employ of or holding any official relation to, any public service corporation, subject to the provisions of this act, or holding any stock or bonds thereof, or who is pecuniarily interested therein, shall enter upon the duties of or hold said office Nor shall any of said commissioners be a candidate for or hold any public office, or be a member of any political committee, while acting as such commissioner; nor shall any commissioner or employee of said commission receive any pass, free transportation or other thing of value, either directly or indirectly, from any person, firm or corporation subject to the provisions of this act.

The commission is empowered to employ a secretary, to hold that position at the pleasure of the commission, and such other employees as may be necessary to carry out the purpose of this act, the compensations to be fixed by the commission. The actual expenses necessarily incurred by the commissioners and employees, while absent from the general office of the commission and engaged about the business of the commission, shall be paid, as other claims against the State are paid, out of any appropriation for such purpose, upon an itemized statement thereof rendered monthly by the secretary, under his oath, and approved by the commission.

The Commissioners shall receive a salary of $6,000 per annum. The general office shall be at the capitol of the State, and shall be kept open from 9 o'clock A. M. to 5 P. M., in charge of the secretary, or some other competent person. Hearings and the taking of evidence may be had at such times and places, and in each particular case as the commission may designate.

The commission shall prescribe the rules of procedure, and for taking evidence in all matters that may come before it, and enter such final orders as may be just and lawful. In the investigations, preparations and hearings of cases, the commission need not be bound by the technical rules of pleading and evidence, but may exercise such discretion as will facilitate its efforts to understand and learn all the facts bearing upon the right and justice of the matters before them.

The jurisdiction of the commission includes:

(a) Common carriers, railroads, street railroads, express companies, sleeping car companies, freight lines, car companies, toll bridges and ferries.

(b) Telegraph and telephone companies and pipe line companies, for the transportation of oil, gas or water.

(c) Gas companies, electric lighting companies and municipalities furnishing gas or electricity for lighting, heating or power purposes.

(d) Hydroelectric companies, for the generation and transmission of light, heat or power, and water companies.

(e) All persons, associations, corporations and agencies employed or engaged in any of the businesses hereinbefore enumerated.

The commission is given the power to investigate all methods and practices of public service corporations, and to require them to conform to the laws of the State. It may compel obedience to its lawful orders by proceedings of mandamus or injunction, or other proper proceedings in the name of the State, in any circuit court having jurisdiction; or the Supreme Court of Appeals direct, and such proceedings shall have priority over all pending cases. The commission may change any intrastate rate, charge or toll which is unjust or unreasonable, and may prescribe such rate, charge or toll as would be just and reasonable, and change or prohibit any practice, device or method of service, in order to prevent undue discrimination or favoritism as between persons, localities or classes of freight; provided that the commission shall not reduce any rate, toll or charge within 10 years after the completion of the railroad or plant to be used in the public service, below a point which would prevent such public service corporation from making a net earning of 8 per cent. on the cost of construction and equipment of said railroad or plant. But in no case shall the rate, toll or charge be more than the service is really worth, considering the cost thereof. Every order entered by the commission shall continue in force until the expiration of the time named, or until revoked or modified by the commissioner, unless the same be suspended, modified or revoked by order or decree of a court of competent jurisdiction.

No public service corporation shall, directly or indirectly, by any special rate, rebate, drawback or other device or method, charge, demand, collect or receive from any person, firm or corporation a greater or less compensation for any service rendered or to be rendered, than it charges, demands, collects or receives from any other person, firm or corporation for doing a like and contemporaneous service under the same or substantially similar circumstances and conditions. No change shall be made in the rates, fares or charges or joint rates, fares or charges, which have been filed and published by any public service corporation, by any person or corporation, under the purview of this act, except after 30 days' notice to the commission and to the public, which shall plainly state the changes proposed to be made in the schedule then in force, and the time when the changed rates, fares or charges shall go into effect, and the proposed changes shall be shown by printing new schedules, and shall be plainly indicated upon the schedules in force at the time, and kept open to public inspection; provided, however, that the commission may, in its discretion, and for good cause shown, allow changes upon less time than the notice herein specified, or may modify the requirements of this section in respect to publishing, posting and filing tariffs, either by particular instructions or by general order.

The commission shall have general supervision of all persons, firms or corporations having authority under any charter, or franchise of any city, town or municipality, county court, or tribunal in lieu thereof, to lay down and maintain wires, pipes, conduits, ducts, or other fixtures in, over or under streets, highways or public places for the purpose of furnishing and distributing gas, or for furnishing and transmitting electricity for light, heat or power, or maintaining underground conduits, or ducts for electrical conductors, or for telegraph or telephone purposes, and for the purpose of furnishing water, either for domestic or power purposes and of oil and gas pipe lines.

The commission may ascertain the quantity, healthfulness and quality of the water, or quality and quantity of gas or electricity supplied by such persons, firms or corporations, and examine the methods employed; and shall have power to order such improvements as will best promote the public interests and preserve the public health.

The commission shall have power to enter, and to inspect the property, buildings, plants, fixtures, power houses and offices of any such persons, firms, corporations or municipalities, and shall have power to examine the books and affairs; and to subpoena witnesses and take testimony, and administer oaths to any witness in any proceeding or examination instituted before it or conducted by it, in reference to any matter within its jurisdiction.

The commission shall, when and as necessary, appoint inspectors

of meters, to inspect, examine, prove and ascertain the accuracy of any gas, electric or water meters used or intended to be used for measuring or ascertaining the quantity of gas, electricity or water furnished; and when found to be correct, or made so, the inspector shall stamp or mark each of such meters with some suitable device, which device shall be recorded in the office of the commission. After 90 days from the time this act takes effect no person, firm or corporation shall furnish or put in use any gas, electric or water meter, which shall not have been inspected, proved and stamped or marked by an inspector of the commission. Provided, that in case of emergency, gas, electric or water meters may be installed and used before being inspected, but notice thereof shall be immediately given to the commission by the corporation installing the same, and such meters shall be inspected as soon thereafter as practicable. Every gas, electric and water company or corporation shall provide and keep upon its premises, suitable and proper apparatus, to be approved by the commission, for testing and proving the accuracy of meters furnished for use by it; by which apparatus every meter may and shall be tested on the written request of the consumer to whom the same shall be furnished, and in his presence if he so desires. If any consumer shall request the commission in writing to inspect his meter, the commission shall have the same inspected and tested. If it is found to be 4 per cent., if an electric or water meter, or 2 per cent., if a gas meter, from being correct, to the prejudice of the consumer, the inspector shall order the company forthwith to remove the same and to place instead thereof a correct meter, and the expense of such inspection and testing shall be borne by the company. If the meter, on being so tested, shall be found to be correct, or within 4 per cent. or 2 per cent. of being correct, the expense of such inspection and testing shall be borne by the consumer. A uniform charge and rules shall be fixed by the commission for this service.

Any person, firm, association or persons, public officer, public or private corporations, municipality or county, complaining of anything done or omitted to be done by any public service corporation subject to the provisions of this act, in contravention of the provisions thereof, or any duty owing by it, under the provisions of this act may present to the commission a petition which shall succinctly state all the facts, whereupon a statement of the charges thus made shall be forwarded by the commission to said public service corporation which shall be called upon to satisfy such complaint or to answer to the same in writing within a reasonable time, to be specified by the commission. If such public service corporation within the time specified shall make reparation for the injury alleged to have been done, or correct the practice complained of and obey the law and discharge of its duties in the premises, then it shall be relieved of liability to the complainant for the particular violation of the law or duty complained of. If such public service corporation shall not satisfy the complainant within the time specified, or there shall appear to be any reasonable ground to investigate the complaint, it shall be the duty of the commission to investigate the same in such manner and by such means as it shall deem proper.

Every public service corporation shall file with the commisson, and keep open to public inspection, schedules, showing all the rates, charges and tolls for service to be rendered by it or by other persons, firms or corporations in connection with it.

In all hearings or proceedings before the commission, the evidence of witnesses and the production of documentary evidence may be required at any designated place of hearing; and, in case of disobedience to a subpoena or other process, the commission, or any party to the proceedings before the commission, may invoke the aid of any circuit court in requiring the evidence and testimony of witnesses, and the production of papers, books and documents. A claim that any such testimony or evidence may tend to criminate the person giving the same, shall not excuse such witness from testifying, but such witness shall not be prosecuted for any offense concerning which he is compelled hereunder to testify.

The commission shall direct full and complete information of the value of all the property owned and controlled by any person or public service corporation, as of the 1st day of April, in each year, and tabulate in statistical form and furnish the same to the board of public works on or before the 1st day of June in each year; which information shall be used by the board of public works in fixing the value of the property for assessment for the purpose of taxation as provided by law.

There shall be paid by all public service corporations a special license fee in addition to those now required by law. Such fee shall be fixed by the auditor upon each public service corporation according to the value of its property, as ascertained by the last preceding assessment; and shall be apportioned among such public service corporations upon the basis of such valuation, so as to produce a revenue of $60,000 per annum, or so much thereof as may be necessary, which shall be paid on or before the 20th day of January in each year. Such sum of $60,000 or as much thereof as may be necessary, is hereby appropriated and set aside for the purpose of paying the salaries, compensations, costs and expenses of the commission, its members and employees, and no other sum shall be appropriated therefor.

Every officer, agent, employee, or stockholder of any public corporation, and every patron, passenger, shipper or consignee, or other person, who shall violate any provision of this act, or who procures, aids or abets any violation of any such provision by any such public service corporation, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not more than $1,000, or be confined in the jail not more than 1 year, or both, in the discretion of the court. When any person is convicted of a violation of any provision of this act, and it is alleged in the indictment on which he is convicted, and is admitted, or by the jury found that he has been before convicted of the violation of any provisions hereof, committed prior to the violation for which the indictment upon trial was found, then he shall be fined not less than $200 nor more than $2,000, or be confined in jail not less than 30 days, nor more than 1 year, or both, in the discretion of the court. When any person is convicted of a violation of any provision of this act and is alleged in the indictment upon which he is convicted, and is admitted, or by the jury found that he has been twice, or oftener, before convicted of a violation of any provisions hereof committed prior to the violation for which the indictment upon trial was found, then he shall be fined not less than $500 nor more than $5,000, and shall, in addition thereto, be confined in the county jail not less than 3 months nor more than 1 year.

Any person, firm or corporation claiming to be damaged by any violation of this act by any public service corporation, may make complaint to the commission, and bring suit in his own behalf for the coverery of the damages for which such public service corporations may be liable under this act in any circuit court having jurisdiction. In any such action, the court may compel the attendance of any agent, officer, director or employee of such corporation as a witness, and require also the production of all books, papers and documents which may be used as evidence, and in the trial thereof such witnesses shall not be prosecuted for any offense concerning which they are compelled hereunder to testify.

New Methods and Appliances.

ACQUIRING A PROSPECTIVE, FOUR MILLION CUBIC FEET PER DAY INDUSTRIAL GAS CONSUMER.—By MR. A. H. GINDELE, Gas Specialist, The Toledo (O.) Railways and Light Company.—The increased cost of fuel oil itself did not really give the opportunity to go after large fuel oil users for industrial purposes, for oil selling at the advanced price could easily compete with gas, were it not for the fact that the oil companies would not make definite written contracts for future delivery, although stating that the large users could get all the oil they wanted, providing the companies had it to sell. But they would not guarantee, or give a definite promise, that one could be sure of his daily supply in the future; or that the price might not be advanced, and probably be prohibitive later on. It requires quite a little thought, on the part of the managers operating a large factory or manufacturing plant under such conditions, not knowing when they would be compelled to shut down, with resultant loss of business, damage to material in course of production, and repairs to furnaces, etc. When this matter was considered by the Willys Overland Company, Toledo, O., we had, as a competitor for the business, natural gas at 35 cents, and we demonstrated on test that we could do the work with artificial gas at a slightly higher cost; but when the dependability of our service was considered, and that natural gas had against it the arguing point, "You might not have it when you want it most," we won out.

The contract has been closed by me, with the Willys Overland Automobile Company, the installation entailing an expense of many thousands of dollars; and within a few weeks we will have their daily consumption of about one million cubic feet. This new business will be about the limit of our facilities for manufacturing, after our local customers are taken care of, until contemplated additions to our works are completed.

The Overland Company are continually making improvements,

and many new buildings are in course of erection, their large sales' demands requiring that their outfit be doubled by the fall of 1913. They are now using about 2½ tank cars of fuel oil, and one tank car of gasoline per working day, which quantity would necessarily be doubled, except for the introduction of gas, which will supply the new foundry, blacksmith shop, and enamelling buildings.

There will be several separate installations of meters, which comprise sixteen 100-light Maryland, B-meters and five 250-light meters, also, several 100-light old style, with a few smaller units in isolated buildings having a total capacity of nearly 45,000 cubic feet per hour. The main installation consists of a 10-inch inlet header, with the openings for meters electrically welded into the piping. This way of making a manifold saves expensive fittings and labor in erecting, and also eliminates probable leakage trouble, the cost being about ⅓ the usual header cost. This header has fifteen 100 light B-meters. Provision is made, too, for future and additional meters. The outlet also is a 10-inch manifold, connected to a booster plant, consisting of a 48-inch equalizing tank, a pressure regulating device, and Stuyvesant, No. 3 booster, operated by a 4-horse power motor. It is equipped with by-pass connections, and a mercury blow-off seal to prevent back pressure. It is desired to deliver the gas to the various buildings at about 35-tenths pressure. The capacity of this booster installation will be 30,000 cubic feet per hour, and it will supply the foundry building, whose equipment consists of 30 furnaces for melting metals, 2 batteries of core ovens with 8 large compartments, and a number of drying torches for moulders' use. This department operates night and day and provision has been made for 10 more furnaces to be installed later.

The blacksmith and machine shops have die tempering, cyanide heat treating, lead hardening, forge, and annealing furnaces, and 10 large brazing outfits. The enamelling building outfit will include about 20 ovens, some 30 feet long by 15 feet wide, by 6 feet high. There is also an old enamelling room, which contains 12 ovens 16 feet by 8 feet by 6 feet, which will also be supplied with gas.

The piping is now being extended to all branches of the factory where oil or gasoline is now being used. It is of ample size, and adapted for additional connections without much expense, to provide for the future. There will still be prospective business of over 3,000,000 cubic feet, which we are unable now to take on, in the drop forge shop and in the annealing furnace and tempering departments, and in several isolated buildings. Later on this increased consumption can be readily taken care of in the system, as now planned, with a few slight additions. Since the above installation was acquired, we have tried artificial gas for the rough test on automobile engines, on the block in the assembling department. As this Company also gives the engine a gasoline road test, it seemed that we could acquire this business. The experiment gave results so favorable to gas, meaning a saving of over $80 per day, that they are now installing the necessary piping and connections for 65 gas blocks, at a cost of $2,000, meaning an additional consumption of about 6,000 cubic feet per hour. This will improve operating conditions, as the atmosphere in this department was so unhealthy from noxious vapors that it was hard to get men to work longer than a few weeks, for very few, especially in the winter when the doors were closed, were able to stand the fumes. I am experimenting on a gas mixing device for engines, and expect to operate automobiles with compressed artificial gas. Results have as yet not advanced far enough to really form an opinion as to its adaptability, but the matter seems possible, and a new customer in automobiles and motor boats, or isolated plants, would prove quite a boon for the gas business.

Low Temperature Carbonization.—The *Gas World* (London) reports, respecting a small plant in London that is experimentally producing tarless fuel or flaming coke, with benzole, ammonia and tar as by-products, using the gas under its retorts or selling it to consumers, as desired. The carbonization is done in annular, cast iron, vertical retorts, 9 feet long by 1 foot 8 inches, outside diameter; the coal occupying the annular space in 2 layers, about 3 inches thick, separated by a cast iron partition. This thin wall of coal is necessary in order that it may be coked uniformly throughout. The distillation is under a vacuum of from 25 to 28 inches of mercury. The gas is drawn from the retorts through air condensers and a P. and A. tar separator, and then discharged by the exhauster through scrubbers to remove the benzole, being finally compressed to remove other light oils, and then expanded and delivered into the holder. The following are sample results from some of the different coals handled:

Lancashire Coal D. S. Nuts.

Yield of tarless fuel	78 per cent.
Yield of water-free tar, per ton	20.19 gallons.
Yield of ammonium sulphate, per ton	45 pounds.

The tarless fuel made from the above coal gave:

Fixed carbon	92.86 per cent.
Volatile matter	3.86 "
Ash	3.28 "

This is a good fuel for gas producer plants.

Coal Dust from the same Colliery.

Yielded tarless fuel	74 per cent.
Water-free tar per ton of coal	15.4 gallons.
Ammoniun sulphate per ton	20.7 pounds.

The tarless fuel showed:

Fixed carbon	82.85 per cent.
Volatile matter	8.26 "
Ash	8.89 "

This is an excellent fuel for domestic purposes, burning with a clear flame, quite smokeless, and giving intense heat.

Durham Coal Fines.

Yielded tarless fuel	78 per cent.
Water-free tar per ton of coal	14.6 gallons.
Ammonium sulphate per ton of coal	10.91 pounds.

Another sample from the same pit yielded:

Tarless fuel	76 per cent.
Water-free tar per ton of coal	16.1 gallons.
Ammonium sulphate per ton of coal	9.11 pounds.

Three different samples of Yorkshire coal were tested, with the following results:

(1)	Tarless fuel	73 per cent.
	Water-free tar per ton of coal	19.2 gallons.
	Ammonium sulphate per ton of coal	11.71 pounds.
(2)	Tarless fuel	73 per cent.
	Water-free tar per ton of coal	17.2 gallons.
	Ammonium sulphate per ton of coal	11.5 pounds.
(3)	Tarless fuel	78 per cent.
	Water-free tar per ton of coal	22 gallons.
	Ammonium sulphate per ton of coal	10.5 pounds.

Gas Heated Bake Ovens.—At the meeting of the Société Technique du Gaz en France, M. Rouland read a paper describing the efforts made by the Paris Gas Company to convert the old-fashioned masonry bakers' ovens to gas fuel. These ovens have flat tile or brick bottoms, of about 100 square feet in area, in height from 10 to 16 inches. Fig. 1 shows a characteristic, longitudinal section. In

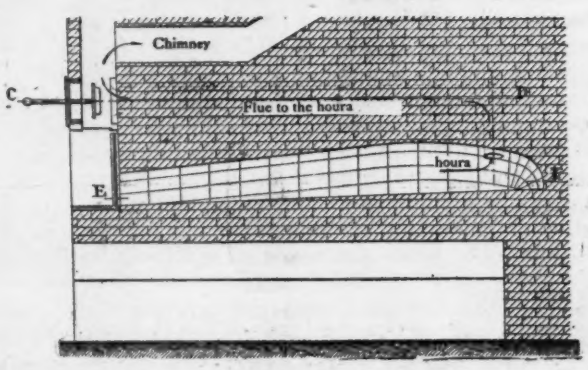

Fig 1.

heating the oven the solid fuel is introduced through the door, *E*, and burned in the body of the oven until its temperature is brought to about 350° C. The remaining fuel and ashes are then scraped out; the bottom of the oven swept as clean as possible; and the loaves to be baked distributed over the surface. When the baking is completed, the bread is removed, fresh fuel introduced, and the oven again heated to the required temperature, ready for another batch of bread. The Paris Company has installed gas burners in hundreds of these ovens, one burner of its own design and patent being shown in Fig. 2. It is a pipe manifold burner, with flame jets arranged to heat every part of the oven body, and mounted on a stand so that it

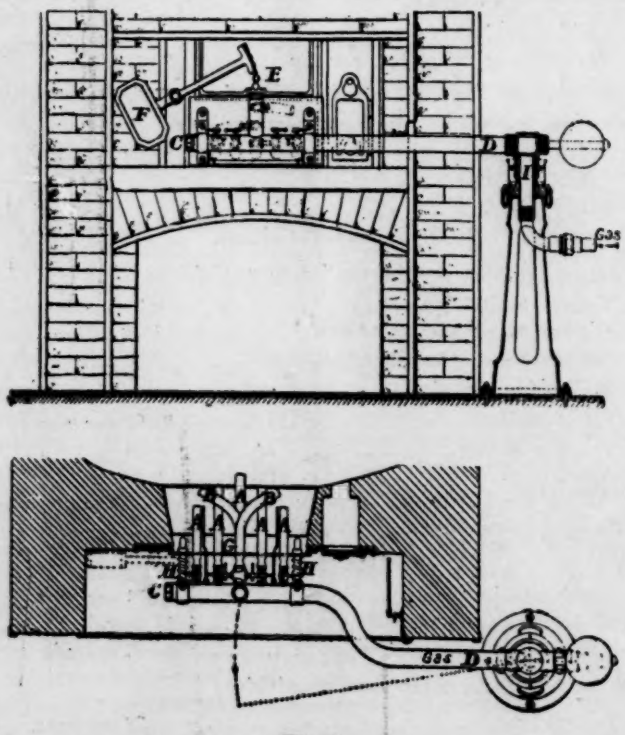

Fig. 2.

can be swung out of the way, when the oven is sufficiently heated. The following tables show comparisons of baking with solid fuels and gaseous fuel, with results of burners of different designs:

	Wood.	Paris Co.'s Model.	Cayron.	Meker.	Oudeville.
Fuel used, wood, dry, pounds....	253.66	....	.....	....	....
gas, cubic feet.....	.....	1,530	1,701	1,566	1,630
Cost of fuel.....	1.44	1.66	1.95	1.70	1.77
Duration of heating up—					
First heating, minutes.....	58	65	47	47	44
Second and third, minutes.....	21	26	17	20	20
From notes of expert judges...					
Bread, points (maximum 20)—					
Appearance.....	18.3	17.1	19	15.7	18.5
Cleanness.....	15.2	19.7	20	20	20
Baking.....	17.3	15.7	19	15.4	17.4

Apparatus Used.	Capacity of Appatus, Cu. Ft. per Hr.	Number of Bakings per 24 Hours.	Total Weight of Bread per Day, Pounds.	Total Consumption of Gas per Day, Cubic Feet.	Cubic Feet of Gas per 100 Lbs. of Bread.	Average Consumption of Gas per Baking Cubic Feet.
Gas Company..	812	5	924	1,238	134	247.6
" " .	883	8	1,441	1,836½	128	229½
Cayron.....	1,059	11	2,090	3,150	151	190
"	1,059	18	3,252	3,956	122	181
Meker	812	9	1,848	2,065	112	205
Oudeville	989	5	770	1,342	174	154
Cayron.....	1,059	11	1,593	1,942	122	145

The heating of the ovens by gas has been indorsed by the Bakers' Association of Paris, and they intend eliminating the use of solid fuel entirely. There are thousands of similarly built ovens in American bake shops, and their conversion to gas offers an extensive field for operation.

Items of Interest
FROM VARIOUS LOCALITIES.

Manager A. S. B. Little, the wideawake General Manager of the Atlas Paint Company, Nashville, Tenn., reports that business is remarkably brisk, in that orders are coming in from all points for material necessary to put the exposed iron work of gas companies in proper shape to resist the attacks of fall blows and winter snows. Many of these are repeat orders, notable amongst the latter being good requisitions from the New York Consolidated Gas Company.

Mr. J. R. Meader, of South Haven, Mich., has been conducting a 90-day, new business campaign for the Crookston (Minn.) Company. That he has been successfully working the field is evident from the fact that 225 new consumers have been added to the Company's list since Mr. Meader took charge, April 15th last.

Mr. F. R. Hutchinson, writing from Cleveland, O., under date of the 10th inst., informs us that the East Ohio Gas Company (Cleveland) made a contract with the "Essaney Company," preparers of moving pictures, to get out two reels of films, carrying approximately a series of views, 1,500 feet in length, which graphically show the bringing-in of a modern-type natural gas well. The views portray the surveying of the land, giving a panoramic view of the hills, mountains and vales that had to be traversed by the pipe line, from point of outpouring to the scene of utilizati on thereof. The views also show the unloading (from narrow gaug e flat cars) of the main pipes in the mountainous districts, and the remounting of same on wagons, hauled by 4 to 8 horses, for carrying across rough country to the points from which it is to be strung. Then come pictures showing the digging of the trenches, the jointing of the line parts by couplings, and the bedding or placing of the carriers in the trenches, etc. The "show" is to be put on, beginning the 14th inst., and to continue for from 4 to 6 weeks, in all the better class moving picture theaters in Cleveland. The unreeling of the films will be under the charge of a competent lecturer, who will describe in minute detail the differing stages in each operation, making plain the peculiar advantages possessed by Cleveland over the five cities—New York, Chicago, Philadelphia, St. Louis and Boston—which outrank it in population, in that it enjoys a bountiful supply of natural gas, available for domestic use at the low figure of 30 cents per 1,000 cubic feet. However, this lead, suitably modified, could be advantageously followed in every large city as a means of showing positively the advantages of gas from any point of view before a class of audiences that may thus be sensibly appealed to.

"It may be of interest to you to know that, the H. L. Doherty syndicate having gained control of the public utilities of Hutchinson, Kas., the following executive organization was accomplished by the proprietors: Directors, H. L. Doherty, A. E. Asher, A. C. Malloy, F. W. Frueauff, H. H. Scott, J. F. Springfield and Walter Grundy; President. H. L. Doherty—vice D. F. Tilly, of Boston; Vice President, A. C. Malloy—vice Guy P. Gannett, of Augusta, Me.; Secy.-Treas., Walter Grundy; General Manager, J. F. Springfield. The name of the corporation is, The United Water, Gas and Electric Company.—R. W."

"H. M.," writing from Baltimore, under date of the 11th inst., informs us that Mr. George Sligo, New Business Manager of the Carolina Power and Light Company, Raleigh, N. C., has been appointed Assistant Manager, Ruud Manufacturing Company Baltimore branch, covering the States of Maryland, Virginia and North Carolina. Mr. Sligo assumed his new work the first inst. He is a clever man, and there may not exist a doubt about his making good.

Mr. Fred. W. Freese, of Fort Wayne, Ind., has been awarded the contract, complete, for the construction of a gas plant in the bustling town of Provo, Utah.

The Washington (D. C.) Gas Light Company has ordered a Terry turbine driver blower set, up to 140 horse power. The experience of those who are using the Terry turbine sets seems all in favor of the apparatus.

The election of general officers to advise and counsel with the controllers of "The Gas Meeters" sections resulted in these choices: Grand Commissioner, Mr. Will W. Barnes; General Secy.-Treas., Mr. Thurston Owens. Mr. Barnes is a member of the firm of Messrs. Bayley & Sons, manufacturers of modern lighting fixtures; and, as our readers know, Mr. Owens is General Manager of the gas and electric properties operated in La Crosse. Wis., by the American Utilities Company. It might be noted here that "The Gas Meeters" organization is controlled by a Board of Managers, comprising the Past Section Chairman, the Grand Commissioner, being elected by them from among their own number; the General Secretary is elected by the Board of Managers.

Word from Louisville, Ky,, under date of the 10th inst., thus officially notes the coming into its own of the Louisville Gas and Electric Company: Yesterday the Louisville Gas and Electric Company succeeded to full control of the Louisville gas and electric

utilities, the last unit being the Kentucky Electric Company, the entire stock of which was purchased outright. The factors in the merger are: The Louisville Gas Company, the Kentucky Heating Company, the Louisville Lighting Company, the Kentucky Electric Company, the Geo. C. Fetter Lighting Company, and the Campbell Electric Company. The officers chosen are: President, George H. Harries; Vice-President, Donald McDonald; Treasurer, T. B. Wilson; Directors, H. H. Byllesby (Chairman of the Board); Otto E. Osthoff, Arthur S. Huey and J. J. O'Brien, of Chicago; Geo. H. Harries, Jas. B. Brown, Donald McDonald, Chas. J. Doherty, H. D. Rodman, M. O'Doherty, D. E. Doherty, Jno. H. Whallen, Henry W. Fuller and J. W. Barr, of Louisville; and B. H. Trimble, Mount Sterling, Ky. Donald McDonald will act as General Manager, and H. L. Harries, Assistant General Manager. In accordance with the agreement between the authorities and the Company, work will be started forthwith upon the natural gas pipe line from West Virginia, and it is quite possible that natural gas will be distributed in Louisville during the winter. Another possibility in connection with the merger is the expansion with verification of the steam heating systems of the various utilities to serve additional territory. Stockholders in the new Company have authorized the issuance of $7,500,000 five-year, 6 per cent. bonds, all of which have been sold. The controlling interest in the Company is held by the Standard Gas and Electric Company, one of the Byllesby corporations, and the property will be under the active management and operation of H. M. Byllesby & Co.

Messrs. C. and W. Walker, Ltd., of Downington, Salop, England, are to construct a gasholder, in Sydney, Australia, for the Australasian Gas Light Company, which is to be full up to retaining 12 million cubic feet. We understand that the holder is to be of the type erected by Messrs. Clayton Son & Co., Ltd., of Leeds, England, some years ago for the South Metropolitan Company, London, England, the actual working capacity of which is 12,200,000. The Sydney folks have also contracted for a second installation of Glover-West verticals, 4 across rather than 4 alongside (as in the prior installation), or a total on the vertical plan of 272 retorts, up to a daily output of 9½ millions cubic feet.

Writing of this recalls the fact that the Townsville Gas and Coke Company, Ltd., of Queensland, the proprietors of which have arranged for a new plant, will also have an inportant installation of verticals, of the Dessau system.

"B. A. R." writing from Des Moines, Iowa, under date of the 9th inst., says that the city, acting under the advice of Corporation Counsel H. W. Byers, will not prescribe standards for gas values, nor institute measures for general gas inspection, at this juncture, preferring to await the outcome of the appeal of the Capital City Gas Company to the U. S. Supreme Court, in respect of the 90-cent gas ordinance which the authorities of Des Moines are attempting to establish.

Mr. F. L. Dykema has been authorized to construct a steel coke stack, to the order of the Grand Rapids (Mich.) Gas Light Company, the conveyor to have a ground dimension of 24 by 24, and a height of 58 feet.

Brother Congdon has been at it again, and with his usual success. This time he has convinced the Street Committee of City Councils, Atlanta, Ga., to use the Company's special tar binder on a number of streets in that city, instead of using the material locally known as "Chert." The Committee had an excellent opportunity to consider the tar binder's merits, through an inspection of a lengthy example laid some months ago along the surface of the much travelled automobile drive to East Lake. Perhaps the aforesaid brother is not always on the job.

The improvements on the plant of the Jacksonville (Ills.) Railway and Light Company, as per estimate of Superintendent W. B. Miser, will cost $25,000. New buildings, new water gas machinery (in fact almost everything save the holders will be new), and quite a bit of main extension, are on the programme. All this work, save the distributing lines, will be done by the Gas Machinery Company, of Cleveland, O.

Judge Hale, of the Public Service Commission, was granted an order, on application to Justice Rudd, requiring the proprietors of the Cooperstown (N. Y.) Gas Company to show cause, or make answer to a demurrer to the complaint, by means of which certain prominent business interests of the named place seek to prevent the Company from discontinuing activity. The order is returnable before Judge Rudd next Saturday.

Mr. T. J. H. Leckband, who has the contract for constructing the new gas plant at Albia, Iowa, declares that the gas will be on the town by October first.

"B. V. M." writing from Charlotte, N. C., under date of the 12th inst., incloses the following, with the remark that "'tis great," if true: "The Board of Alderman is seriously considering the matter of rescinding the franchise of the Statesville Gas Company, which, it is believed, has been legally forfeited by failure of the proprietors to give town gas service. The matter was discussed at a meeting of the Board and Mayor Caldwell, and City Attorney Thompson is now analyzing the situation with a view to recommending action at a special meeting to be called before the end of the current month. Activities at the plant ceased more than a month ago, and the Manager of the concern has been out of town for a week or more. It is charged that the gas turned into the mains of the Company a few nights several weeks ago was shipped there in tanks, and that no gas has really been manufactured in the Statesville plant.

The authorities of Richmond, Va., have voted favorably on the appeal of the Trustees of the Sheltering Arms Hospital, that that institution be given gas without charge therefor.

Mr. William B. Hughes, inventor and gas engineer of the Wellman-Seaver Morgan Company, of Cleveland, O., died at his home, 2207 East 89th street, the morning of the 9th inst. Born in Philadelphia, in 1859, in 1874 Mr. Hughes entered the service of Shaw Machine Company, and later on he was employed by the Pencoyd Iron Works, as Assistant Chief Engineer. About 1887 he designed and built the plant of the Harrisburg Pipe and Pipe Bending Company, and in 1904 he became connected with the Wellman-Seaver-Morgan Company. He was the inventor of the Hughes mechanical gas producer, and was also the inventor of several appliances in connection with producer gas practice. He is survived by his widow, a daughter and a son.

A correspondent, writing from Suffolk, Va., under date of the 15th inst., says: "We advise the gas fraternity to be on the lookout for one J. Walters, who was one of the solicitors under Mr. Howard who last May conducted a week's demonstration for the Strauss Gas Iron Company. Near the end of that week he asked Mr. J. E. Francis, of the Suffolk Gas and Electric Company, to cash a draft, of the Vogo Drug Company, signed by George A. Knox, on the Peoples Bank, of Buffalo, N. Y. The draft was returned unpaid, and Mr. Francis, although out the money, is considerably wiser."

On the first prox. the Greenville (S. C.) Gas, Electric Light and Power Company will cease to exist. Thereafter the name of the corporation will be "Southern Public Utilities." The working force will continue as before.

"F. H. W.," writing from Fort Wayne, Ind., under date of the 14th inst., says: "In the organization of the Provo (Utah) Gas Company, which was incorporated by Messrs. F. C. Richmond and A. F. Beringer, of Salt Lake City, J. A. Jones, of Pocatello, Idaho, and W. H. Ray, of Provo, the officers chosen were: President, F. C. Richmond; Vice-President, W. H. Ray—he is also Treasurer; Secretary, A. F. Beringer. It is to be a coal gas plant, the distribution system to be of the high pressure type. Construction work is underway, and it is thought the plant will be completed by November first."

The Massachusetts Board of Gas and Electric Light Commissioners has issued an order approving the petition of the Brockton Gas Light Company for permission to issue $500,000 additional capital stock. In approving the new emission the Board specified that 1,200 shares, representing $120,000, shall be used to meet outstanding notes, and that the proceeds of 3,800 shares ($380,000) shall be for the payment of the cost of additions made subsequent to February 28, 1913.

Mr. James B. Carroll has taken the place on the Board of Directors, the Springfield (Mass.) Gas Light Company, made vacant by the resignation from the Board of his law partner, Mr. William H. McClintock. A regular quarterly dividend of 2½ per cent. on the stock has also been declared.

The additional water gas sets on the Miskan street plant of the Waterloo (Ia.) Citizens Gas and Electric Company, will bring the total generating capacity to 3,609,000 cubic feet per day.

The Market FOR GAS SECURITIES.

Possibly it was the successful joining of the headers of the Consolidated Gas Company's new tunnel (from the Bronx to the huge plant of the Company at Astoria), which was successfully brought off by President Cortelyou and Chief Bradley the afternoon of yesterday (Thursday), that caused Consolidated to "go up" this morning; and perhaps not. However, it opened with an advance of a full point over last night's closing, and at noon to-day (Friday) it was 130 to 131. Possibly the guessers will feel more at ease, now that it is known this huge tunnel operation will cost $5,000,000 or more; but its possession puts the Company in perfect safety as to continuous supply from works to mainland, as an adjunct to the Ravenwood tunnel, joining Manhattan Island in the vicinity of East 69th street. There is quite a fair inquiry for city gas bonds.

Brooklyn Union is as before, or from 124 to 130, and it is assuredly many points below its real value. The Dow-Jones Company circular for to-day notes that for the first 6 months (ended June 30th) the output figures showed an increase, over the corresponding half of 1912, amounting to 4.2 per cent. This figures an annual output for 1913 of 13 thousand 600 millions cubic feet, and a gross receipt of $10,250,000, a pretty good "gross" for a Company with 15 millions 5's and 15 millions common.

In other out-of-town securities Peoples, of Chicago, maintains its recent advance, but it is very low for a concern that is earning quite close to 11 per cent. on its capital. Pacific Gas and Electric common is 42 to 44, and the preferred is 85 to 88. Washington gas maintains its recent high score, and its neighbor West Washington (formerly Georgetown), feels the continued impulse given to it by the accession to its engineering management of Mr. Thomas F. Holden. Massachusetts gas is higher, on the showing made for the fiscal year ended June 30th. The gain in net applicable for dividends was $350,000 or more. The general situation is favorable.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

115 BROADWAY, NEW YORK CITY.

JULY 21.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par alue of $100 per share:

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked*
Consolidated Gas Co.	$99,816,500	100	130	131
Central Union Gas Co.—				
1st 5's, due 1927, J. & J.	8,500,000	1,000	101	103
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	105	106
Mutual Gas Co.	8,500,000	100	157	157
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	99	101
New York & Richmond Gas Co. (Staten Island)	1,500,000	100	59	63
1st Mtg. Gold Bds. 5 p. ct.	1,500,000	—	98½	100½
New York and East River—				
1st 5's, due 1944, J. & J.	8,500,000	1,000	103	105
Con. 5's, due 1945, J. & J.	1,500,000	—	96	100
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	105	102
Standard	5,000,000	100	102	104
Preferred	5,000,000	100	93	94
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	91	9[illegible]
The Brooklyn Union	15,000,000	1,000	124	129
1st Con. 5's, due 1948, M. & N.	15,000,000	—	105¾	107
Yonkers	299,650	500	130	—
Out-of-Town Companies.				
Binghampton Gas Works	450,000	100	—	—
" 1st Mtg. 5's	500,000	1,000	97	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	59	60
Capital, Sacramento	500,000	50	—	35
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed Gold Bonds	7,500,000	1,000	104	105½
Essex and Hudson Gas Co.	6,500,000	—	133	136
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co., 1st Mtg. 5's	1,350,000	1,000	100	101
Hartford	750,000	25	190	200
Hudson County Gas Co., of New Jersey	10,500,000	—	130	138
" Bonds, 5's	10,500,000	—	104	106
Indianapolis	2,000,000	—	7	80
" Bonds, 5's	2,650,000	—	90	93
Jackson Gas Co.	250,000	50	82	—
" 1st Mtg. 5's	290,000	1,000	97	100
Cincinnati Gas and Electric Co.	29,500,000	100	87	90
Kansas City Gas Light Co., of Missouri	5,000,000	100	—	86
Bonds, 1st 5's	3,822,000	1,000	98½	99
Laclede Gas Co., St. Louis.	10,000,000	100	92	94
Preferred	2,500,000	100	—	102½
Bonds	10,000,000	1,000	102½	103
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,570,000	50	120	130
Madison Gas and Electric Co.				
" 1st Mtg. 6's	400,000	1,000	106	
Massachusetts Gas Companies, of Boston	25,000,000	100	90	90½
Preferred	25,000,000	100	90½	92
Montreal L. H.& P., Canada	3,000,000	100	211	212
Nashville Gas Light Co.	1,000,000	100	110	—
Newark, N. J., Con. Gas Co.	6,000,000	—	97	98
Bonds, 6's	6,000,000	—	127	128
New Haven Gas Co.	5,000,000	25	188	190
Peoples Gas Lt. & Coke Co., Chicago	25,000,000	100	111	112
1st Mortgage	20,100,000	1,000	103	103½
2d "	2,500,000	1,000	104	—
Rochester Gas & Electric Co.	2,150,000	50	88	—
Preferred	2,150,000	50	118	—
Consolidated 5's	2,000,000	—	104½	105½
Pacific Gas and Electric Co.	15,500,000	—	42	44
St. Joseph Gas Co.—				
1st Mtg. 5's	1,000,000	1,000	96	98
St. Paul Gas Light Co.	2,500,000	100	—	—
1st Mortgages, 6's	650,000	1,000	104	105
Extension, 6's	600,000	1,000	113½	115
General Mortgage, 5's	8,447,000	1,000	94	96
Syracuse Gas Co., N. Y.	1,975,000	100	50	55
Bonds	2,047,000	1,000	101	103
Washington (D. C.) Gas Co.	1,800,000	200	445	450
1st Mortgage, 5's	600,000	—	—	—
Western Gas Co., Milwaukee	4,000,000	—	—	—
Wilmington (Del.) Gas Co.	600,000	50	—	—

MEETING TIMES OF THE VARIOUS GAS ASSOCIATIONS.

American Gas Institute.—Annual meeting, Richmond, Va., October 15-17, 1913. Officers: President, W. R. Addicks, New York City. Secretary, Geo. G. Ramsdell, 29 West 39th st., N. Y. City.

Canadian Gas Association.—Annual meeting Sept. 1913. Officers: President, Arthur Hewitt, Toronto, Ont.; Secretary and Treasurer, John Keillor, Hamilton, Ont.

Empire State Gas and Electric Association.—Annual meeting, New York City, Oct. 8, 1913. Officers: President, C. G. M. Thomas, Long Island City, N. Y.; Secretary, C. H. B. Chapin, 29 W. 39th street. New York City.

Gas Meters.—Monthly Section Meetings; Grand Commissioner, I. W. Petty, New York; Gen'l Sec'y, H. Thurston Owens, La Crosse, Wis.; New York Section, Chairman, W. H. Pettes; Secretary, G. E. Smith, Sipp Avenue, Jersey City, N. J. Philadelphia Section; Chairman, L. R. Dutton; Secretary, H. F. Patterson, Jr., 833 Chestnut street. Cleveland Section, Chairman, F. R. Hutchinson; Secretary, Wm. Holtz, East Ohio Gas Co. New England Section, Chairman, T. W. Jennings, Boston; Sec., F. K. Wells, 69 Broad street, Boston. Winona Section, Winona, Minn., W. F. Clausen, Chairman.

Guild of Gas Managers of New England.—Annual meeting, March, 1914. Young's Hotel, Boston; monthly meeting, second Saturday. Officers: President, Walter G. Africa, Manchester, N. H.; Secretary, H. K. Morrison, Brockton, Mass.

Illinois Gas Association.—Annual meeting, March 18th and 19th, 1914. Chicago, Ills. Officers: President, W. F. Barrett, Chicago, Ills.; Secretary-Treasurer, Horace H. Clark, 115 No. Oak Park avenue, Oak Park, Ills.

Illuminating Engineering Society.—Annual meeting, ——— September, 1913. Meetings of Sections, monthly. Pres., Preston S. Millar; General Secretary, J. D. Israel, 29 W. 39th street, New York City. Sections: New York, Secretary, C. L. Law, 124 West 42d street. New England, Secretary, H. C. Jones, 10 High street, Boston, Mass. Philadelphia, Secretary, L. B. Eichengreen, Broad and Arch streets. Chicago, Secretary, J. B. Jackson, 28 North Market street. Pittsburgh, Secretary, J. C. Mundo, Oliver Building.

Indiana Gas Association.—Annual meeting, March —— —— 1914. Terre Haute. Officers: President, A. S. Cooke, Terre Haute; Vice-President, A. C. Blinn, Evansville; Secretary-Treasurer, Philmer Eves, Indianapolis.

Iowa District Gas Association.—Annual meeting, May, 1914; ——— Officers: President, B. C. Adams, Lincoln, Neb.; Secretary, G. I. Vincent, Des Moines, Ia.

Kansas Gas, Water and Electric Light Association.—Annual meeting, October——1913. ——— Officers: President, L. O. Ripley, Emporia, Kas.; Secretary and Treasurer, W. H. Fellows, Leavenworth, Kas.

Michigan Gas Association—Annual meeting, September, 17, 18, 19, 1913; ——— Officers: President, W. S. Blauvelt, Detroit, Mich; Secretary-Treasurer, Glenn R. Chamberlain, Grand Rapids, Mich.

Missouri Electric Light, Gas, Water Works and Street Railway Association.—Annual meeting, April, 1913; Mexico, Mo. Officers: President, P. A. Bertrand, Joplin, Mo.; Secretary and Treasurer, P. W. Markham, Brookfield, Mo.

National Commercial Gas Association.—Annual meeting and gas show, Dec. 1-6, 1913, Philadelphia, Pa. Officers: President, C. W. Hare, Philadelphia Pa.; Secretary, Louis Stotz, 29 West 39th street, New York City.

Natural Gas Association.—Annual meeting, St. Louis, Mo., May 19 and 20, 1914; Officers: President, E. L. Brundrett, Kansas City, Mo.; Secy-Treas., T. Clive Jones, Delaware, O.

New England Gas Association.—Annual meeting, February, 18th and 19th, 1914, Boston. Officers: President, T. H. Hintze, Providence, R. I.; Secretary-Treasurer, N. W. Gifford, East Boston, Mass.

New Jersey State Gas Association.—Annual Meeting, July —, 1913, Asbury Park N.J. President, C. F. Butcher, Freehold, N. J.; Sec'y-Treasurer, O. F. Potter, Newark, N. J.

Ohio Gas Association.—Annual meeting, February ——— 1914, Columbus, O.; President, John M. Garard, Columbus, O.; Secretary, L. B. Denning, Columbus, O.

Oklahoma Gas, Electric and Railway Association.—Annual meeting, Oklahoma City, May, ——1914. President, F. E. Bowman, Ada; Secretary-Treasurer, H. V. Bozel, Oklahoma City.

Pacific Coast Gas Association.—Annual meeting, San Jose, Cal., September 16, 17, 18, 1913. Officers: President, Henry E. Adams, Stockton, Cal.; Secretary-Treasurer, Henry Bostwick, 445 Sutter street, San Francisco, Cal.

Pennsylvania Gas Association.—Annual meeting, Allentown, Pa., April ———, 1914; Officers, President, J. A. Frick, Allentown, Pa.; Secretary-Treasurer, W. O. Lamson, Jr., West Chester, Pa.

Society of Gas Lighting.—Annual meeting Dec., 11, 1913; monthly meetings, second Thursday. Place, New York City. Officers: President, Fred. S. Benson; Secretary, George G. Ramsdell, 29 West 39th street, New York city

Southern Gas Association.—Annual meeting, Mobile, Ala., April 4, 1914, Officers: President, James Ferrier, Rome, Ga.; Secretary-Treasurer, E. D. Brewer, Atlanta, Ga.

Southwestern Electrical and Gas Association.—Annual meeting, May——1914, Galveston, Tex. Officers: President, G. H. Gifford, Fort Worth Tex.; Secretary H. S. Cooper, 405 Slaughter Bldg., Dallas, Tex.

Wisconsin Gas Association.—Annual meeting, May ———1914, Milwaukee, Wis. Officers: President, Ewald Hasse, Milwaukee, Wis.; Secretary-Treasurer, Henry Harnan, Milwaukee, Wis.